CRAFT, DESIGN AND TECHNOLOGY IN ESSEX COMPREHENSIVE SCHOOLS: research into selected aspects of the structuring of the subject

Thesis

UNRESTRICTED

CRAFT, DESIGN AND TECHNOLOGY
IN
ESSEX COMPREHENSIVE SCHOOLS

research into selected aspects of the
structuring of the subject

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CRAFT, DESIGN AND TECHNOLOGY IN ESSEX COMPREHENSIVE SCHOOLS: selected aspects of the structuring of the subject.

ABSTRACT

This research firstly locates the structuring of a subject in an historical perspective. In its historical definition, the subject appears as Manual Training in the emerging systems of mass education in the nineteenth century. During the earlier part of the twentieth century it appears as Handicraft in the secondary schools and at the present time as Craft, Design and Technology in the comprehensive schools.

The main body of the thesis then concerns itself with the ways in which the subject is distributed to pupils by the internal mechanisms of comprehensive schools. The sample of schools used is the ninety co-educational comprehensive schools of Essex. The research was carried out by visitation, interviews and questionnaires.

The classification of pupils on intake directs them towards curricula which can be biased towards academic or practical subjects which include Craft, Design and Technology. Further separation of pupils during the second and third years, and the variable allocation of curriculum time contributes to the low status accorded to the subject.

Attempts to include Craft, Design and Technology in a balanced curriculum in the Upper School are undermined by options systems. Procedures which remove the academically able pupils from the influence of Craft, Design and Technology also direct non-academic pupils to it. The subject has almost disappeared from the Sixth Form curriculum.

This structuring of a school subject is placed against perceptions by Craft teachers of their situation inside the schools in relation to their assumptions about their subject, their earlier training, their control over redefinitions of the subject and the resources at their disposal.

CONTENTS

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EXPLANATORY NOTES

1. To avoid a multiplicity of titles, the term Crafts refers to all non-specific school workshop activities.

2. Estimates of school populations supplied by Essex Education Department do not indicate the sex of pupils. Tables in the text that are based on these statistics assume an equal number of boys and girls.

3. The sum of percentages in tables is given as 100%.

1. INTRODUCTION

One of the themes of the history of education in the Western world is the distinction between work with the hands and work with the mind.[1] Education concerned with work with the hands has been perceived as vocational training and education concerned with work with the mind has been perceived as a liberal education.

It can be argued that these views have been institutionalised in the English educational system where they have attracted assumptions about social class and status, have sorted pupils into academic and non-academic roles and have created a hierarchy in which subjects having a practical element have held the lower places.

This thesis explores this general theme specifically by looking at the distribution of Craft, Design and Technology in the co-educational comprehensive schools of Essex and in the context of claims that our schools provide a balanced curriculum for all boys and girls at all stages in their comprehensive schooling.

The advent of comprehensive education and the abolition of the eleven-plus selection procedures promised equality of educational opportunity to pupils throughout their school careers. Central to this concept is the belief that the curriculum for each pupil must

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1. Even unified or comprehensive systems can retail this division internally. See: GRANT, N. (1975) School and Work.

be educationally sound and balanced.[1] Essex Headteachers, in published school prospectuses and discussions, support Smith's and Matthew's proposition that children should be presented with a balanced curriculum in which the basic elements of English, Mathematics, Languages, Science, Humanities and Creative subjects are represented. In addition, they assert that each element is of equal value and the whole provides

> 'the best preparation against most of the known and unknown situations' a pupil will meet' (2)

It will be suggested that comprehensive schools in Essex have not yet succeeded in meeting this challenge. Pupils are directed on intake to the school, or are counselled during the first three years, to follow different curricula which, according to the academic ability of the pupils, are biased towards academic or practical subjects. The result is that the closer the pupils are to the ends of the academic ability range, the less will be their chance of taking part in a programme which encompasses all parts of a balanced curriculum. In other words, the effect of the selection procedures in many comprehensive schools will segregate children as surely as the eleven-plus examination.

This segregation of pupils of high academic ability has particular significance to our technological society since these pupils are

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1. A balanced core curriculum in terms of areas of knowledge rather than of individual subjects was proposed in Department of Education and Science (1970) Trends in Education.
2. SMITH & MATTHEW (1983) Your Choice at 13+, p.24

denied access to a body of knowledge which included technology studies. The loss of this knowledge to individual pupils is aptly highlighted in the Council of Europe's Report on the Teaching of Technology. This states that

> 'The advent of technological education is a real innovation in the teaching world. It is also something really necessary for there can no longer be any culture without technology. A person who is unable to decipher a technical drawing, express himself graphically, analyse a technical object, or make an informed judgement on the environment in which he lives, is uncultured. An educational system which will not accept technology is an educational system which turns out cultural cripples. This is now understood in all European countries.' (1)

Schools providing curricula which they consider to be most suitable for pupils have not yet come to terms with the view that technology is a necessary part of a common curriculum for all pupils. In Essex comprehensive schools, it will be suggested, curriculum development has met with resistance to the inclusion of a practical ingredient by which all pupils could acquire at least a basic awareness of Design and Technology in our society, which is, to a large extent, dominated by industry and technology.

The fault does not lie wholly with the schools, for, although they can initiate options for senior pupils, the options can only be sustained if they attract sufficient demand. Schools can attempt to stimulate interest by

a) upgrading knowledge to suit the technological age,

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1. COMMITTEE FOR GENERAL AND TECHNICAL EDUCATION: COUNCIL OF EUROPE (1972) The Teaching of Technology, p. 40.

b) increasing the interdisciplinarity of workshop activities

c) accentuating the educational values of the subject, and

d) presenting in attractive packages both the subject and the examination titles.

There still remains an unwillingness to equate high educational achievement of pupils with a technical career for them in industry.

This reluctance is linked to attitudes which remain, in spite of the cumulative effects over the past twenty years of many attempts through major Reports and individual research papers, to represent Craft, Design and Technology as a meaningful subject for all pupils in a technological age. Crowther, in 1959, had emphasised the relevance of creative and technological forms of school craft-work to the reality of work in the adult world. In 1963, Newsom saw the distinctive experiences of Craft as being valuable to all pupils of all ages in all schools - whatever the academic ability of the pupil.

How far the schools were introducing and expanding the technological element in their curriculum to meet this challenge was investigated in 1964/5 by independent but complementary research by Page and Porter. Page [1] surveyed the current state of applied science and engineering in the schools. Porter [2] examined the contemporary economic and social scene against the background of the historical

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1. PAGE (1965) Engineering Among the Schools
2. SCHOOLS COUNCIL (1967) A School Approach to Technology

development of Craft and technical subjects, and suggested a number of ways in which schools could play a part in meeting the technological needs of society.

During a time of considerable debate concerning the place of applied science, engineering and technology in secondary schools, Porter argued the need for schools to adapt the curriculum particularly because the shortage of recruits for technology was, to some extent, still due to the prestige of 'pure' subjects in the schools.

Quillen's cautionary note still applied:

> 'If those who make the school curriculum do not understand the changing culture of which they are a part, deadwood will be carried forward indefinitely in the school programme and there will be important gaps in what is taught and learned.' (1)

Porter's view was that Craft was a satisfying intellectual activity which can best be appreciated through actual experience of designing and making even on a humble scale. For many teachers, his work crystallised ideas and the examples given of work being undertaken in schools pointed the way ahead.

Both enquiries prepared the ground for the Pilot Project in Applied Science and Technology (2) which was being sponsored by the Schools

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1. QUILLEN (1955) Education and Anthropology, p. 2 - 3
2. SCHOOLS COUNCIL (1966) Technology in Schools.Field Report No.3

Council and other interested bodies. The Project sought answers to questions such as

a) do we take enough advantage of the interests of boys and girls, whatever their age, in building things that work, that may be of benefit to society,

b) is the role of technology in modern society given proper weight in the curriculum,

c) is our approach to the teaching of Craft to boys and girls appropriate to the second half of the twentieth century, and

d) are enough girls being interested in engineering.

The Working Paper [1] summarising the investigations of the Pilot Project made it clear that school technology was a logical extension to work already being undertaken in schools, that it provided the subject with additional intellectual content and that technological project work can be supplementary to and not in conflict with the traditional aims of craft work. A serious limiting factor was that Technical Departments in schools were caught in a vicious circle. They frequently suffered from a poor image and as a result, did not attract their full share of able pupils. There was, therefore, little pupil material available for the development work involving the intellectual approach which would result in recognition by the universities and professions and which, in turn, would attract more able pupils to the Departments.

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1. SCHOOLS COUNCIL (1968) Technology and the Schools. Working Paper No. 18, pp. 3 & 4.

For the young school leavers, and their parents, the existing curricula and syllabuses were adequate. Subjects were useful, interesting and recreationally and vocationally valuable. [1]

But, as Eggleston commented [2], there was an urgent need for development studies to determine how technology could be applied as an expressive and intellectual activity for pupils of wide-ranging abilities, with the object of placing Handicraft in the wider contexts of the school and society. This support for research and development sprang, not only from awareness of its necessity, but also from a realisation that, without such a study, the status of Handicraft and those who taught it was likely to be placed at an increasing disadvantage in relation to the other subjects of the secondary school.

Project Technology [3], the largest of the research and development projects, fulfilled this need. It had the main aim of designing and testing teaching materials for schools wishing to include work in technology, and about technology, in their curriculum and to stimulate support of all kinds. The project established a network of communications with regional groups to co-ordinate the efforts of teachers. Educational theory was produced to justify the innovations to the curriculum. The project initiated, influenced and stimulated experiment and debate both within the sphere of its

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1. SCHOOLS COUNCIL (1968) Young School Leavers. Chapter 3.
2. EGGLESTON (1966) Research in the Handicraft Curriculum, pp. 8 & 9.
3. This was established as a Schools Council Project in 1966.

activities and beyond it. Journals and articles kept teachers informed of projects in schools and reported debates on major issues such as Technology for girls and Sixth Form Technology courses for non-examination pupils [1]. National training sessions were organised by the Department of Education and Science, Local Education Authorities and the College of Craft Education, so that teachers, advisers and lecturers would have opportunities to broaden their own experience and be prepared to lead similar courses.

More recently the importance and relevance of Craft, Design and Technology has been associated with Ministerial statements urging educationalists to make the curriculum more geared to industrial needs [2]. A contribution to the Great Debate on Education by H.M. Inspectorate [3] emphasised the wide spectrum of activities now undertaken in school workshops and drawing offices. Whereas the principal aim of Handicraft had been the physical and emotional development of boys, mainly through the gradual acquisition of skills, Craft, Design and Technology extended this to provide a fuller experience in which the cognitive development featured more strongly. Its central aim was to give girls and boys confidence in identifying, examining and finally solving problems with the use of materials. Craft, Design and Technology had an important

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1. SCHOOL TECHNOLOGY FORUM (1973) Report No.3
2. DEPARTMENT OF EDUCATION AND SCIENCE (1977) Education in Schools: A Consultative Document, p. 34 & 35.
3. H.M. INSPECTORATE (1977) Curriculum 11 - 16. p. 33 - 35.

contribution to make to the education of pupils as part of their preparation for living and working in a modern industrial society. In fact, so great was the potential, that the time had now arrived when Craft, Design and Technology should be part of the core curriculum in all schools. (1)

In addition to the growing volume of illustrative material directed towards schools and teachers, a valuable contribution to the possibilities for team work in technology was made by the introduction of national competitions, sponsored by industry, in which inventiveness and initiative were paramount qualities.

In the midst of the quest for more technology in schools, Thring issued a timely reminder that the idealism of young people should not be neglected. (2) He suggested that they should be encouraged and persuaded to find outlets for their idealism through creative activities which were as far towards the good end of the moral spectrum as they could be. There were infinite numbers of problems which could provide the basis of school projects, but the main point was that school projects should always be chosen because they would appeal to the social conscience of the young person who was doing them, and not primarily because one had happened to read about some novel piece of engineering.

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1. DODD (1976) Design and Technology and Balance Within the Curriculum, p.24 and
   SCHOOL TECHNOLOGY FORUM (1977) Letter to Secretary of State
2. THRING (1969) 'Technology is the Best Way to Help People' in Project Technology Bulletin 11. p.183.

A vital piece of research available to those who offer career advice to pupils is that commissioned by the Engineering Industry Training Board. (1) In testing the hypothesis that previous experience affects performance in training, the Report highlights the importance of Craft subjects for all school pupils - not just for those who are regarded as academically 'less able' - and argues that practical work should be a part of any balanced curriculum. Experience of more innovative methods in Craft subjects where there was a high level of planning in the work, could be more beneficial than experience in structured situations where experiments were conducted to illustrate known concepts as, for example, in many science subjects.

Yet it is apparent from discussions during research visits that career and form teachers give no clear statement to parents as to the benefits of Craftwork, and that many specialist Craft teachers have not developed a coherent philosophy to be universally accepted and broadcast. Much confusion still exists because of the misunderstanding stemming from the parallels drawn between Craft education and industrial training and attitudes that equate working with the hands as suitable employment for those with low mental capacity or belonging to low social orders.

The history of these attitudes can be traced to Ancient Greece where craft knowledge was for slaves. Later in France, in Germany and in England when Manual Training in woodwork and metalwork was

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1. MATHEWS (1977) The relevance of school learning experience to performance in industry.

first introduced into schools, it was for the benefit of boys who were, in the main, of the lower social orders and destined to be employed in industry. In England the idea of practical knowledge having low status has persisted with the development of Manual Training, through Sloyd, Handicraft, Technical Studies, Educational Craft and, now, Design and Technology.

The information contained in this thesis raises the question whether the link between practical work for the lower orders of society and Manual Training in the early twentieth century in the elementary schools has been transferred to our present day comprehensive schools with the result that practical subjects have become the preserve largely of the less academically able pupils.

The institutionalisation of the status of subjects in the contemporary school is obviously of extreme importance. As a first approximation, the status of subjects is dependent on a reaction similar to the economic law of supply and demand. High status subjects are highly valued by pupils and parents, employers and Trade Unions and are noted in cash rewards. The examinations related to these subjects are highly prized for vocational and professional purposes. Thus, in addition to the study of the basic subjects of English and Mathematics, a demand is created for suitable options which, in turn, puts pressure on the school to provide adequate resources in the form of accommodation and equipment, teachers, curriculum time and opportunities for study within the options system. Successful examination results contribute to the prestige of the school and the Departments concerned and also perpetuate the high status of the subjects.

In contrast, low status subjects attract little general demand and examination successes are of limited value for career purposes for the pupils and status rewards for the school. A study of the examination qualifications acceptable for entry into over 250 careers and professions [1] illustrates the prejudice which now exists with regard to all forms of practical examinations and the almost universal acceptance of subjects from all other areas of the basic curriculum which make up the balanced education of the pupils. This rejection of Craft qualifications applies both to careers where the body of knowledge being examined is similar to that of the career [2] but also to relatively low status careers where even high pass grades are considered to be unsuitable.[3] The unintended consequence is that, compared with all other subjects, the vocational motivating force of practical subjects and the examinations in these is low.

The move to comprehensive schools was a move towards equal educational opportunity in the eyes of the reformers and eventually to the equality of status of subjects. How far comprehensive reorganisation can be held responsible for raising or lowering the status of Craft is a subject of deep professional anxiety to Craft teachers and was a major point of issue during the interviews

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1. SMITH & MATTHEW (1983) Your Choice at 13+, p. 123-294
2. Technical Drawing is not an acceptable subject qualification for a career in Surveying, p. 282
3. No practical examination, even at 'A' level, is acceptable as a qualification for pupils wishing to train as Post Office Counter Clerks, p.252 and correspondence

that took place during the research visits to schools. Here the reference to high and low status is directly linked to the concept of equality of status for all subjects and not to that of ranking. Mature teachers, whose experience extended to pre-comprehensive days, often in the same school before reorganisation, use this status factor as a major consideration when making an evaluation of their current role and the role of the subject they teach in the school.

Pedley's [1] national indicators of the type of schools and education available at the time when comprehensive education was being introduced into Essex show that 58% of all pupils were receiving a 'failed eleven plus' secondary modern education [2] where practical subjects formed an essential part of the curriculum for the whole ability range. Far from being considered low in status, the Schools Council Enquiry into the Young School Leaver [3] shows that the majority of boys and their parents ranked Craft subjects as being, next to English and Mathematics, the most useful subjects in the curriculum, highly prized for vocational content and ranking above Mathematics and English for being the most interesting. This assessment of the vocational and recreational values of Craft subjects by pupils and parents adds further dimensions to Nisbet's [4] educational and social evaluation of all

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1. PEDLEY (1963) The Comprehensive School, p.12
2. His other estimates were 7% Private, 17% Grammar, 2% Technical, 13% Comprehensive and 3% Special Schools: p. 11.
3. SCHOOLS COUNCIL (1968) Young School Leavers, p.57 - 59.
4. NISBET (1957) Purpose in the Curriculum, p. 67 - 74.

school subjects. These were based on twelve criteria - six for adjustment to the environment and six for personal growth. He awarded full marks to only one subject - Handicraft.

Nevertheless, this thesis will demonstrate that the distribution of Craft is as if it is a low status subject.

2. HISTORICAL BACKGROUND

The introduction of a national system of mass education and its growth into the present day comprehensive system has a parallel in Manual Training expanding into modern Craft, Design and Technology. The hesitant introduction of manual instruction brought forward issues of conflict which show marked similarities with issues of conflict today.

For example, intake procedures direct pupils to different curricula and the development of the curriculum is dependent on the allocation of cash grant and other resources. The profession continues to admit teachers qualified both by college or industrial training. Teachers are exposed to two different teaching strategies - formal and informal - and all are restricted by imposed syllabuses.

The development of Craft has been noted for its constant re-appraisal by teachers of the relevance of their work to the society in which their pupils live. Similarly there has been a constant struggle to obtain for Craft education a status which is equal to that of academic subjects taught in schools.

The low status of practical subjects, as indicated earlier, has considerable roots in history and pre-dates the introduction of Manual Training into the curriculum of schools in England at the end of the last century.

Conversely, important efforts were made to up-grade the status. The notion that forms of handwork could be something other than demeaning is central to the belief of those who, from the Benedictine Rule,[1] through the apprenticeship system and to the present day, have seen a role for Craft that was additional to being purely vocational. Social, moral, aesthetic, therapeutic and educational qualities attributed to the study of Craft could benefit all children of all social classes.

Classical studies met the requirements of the medieval universities and the wishes of those who sought to provide an elitist education for their children and so confirm their high social position. Some European educationalists were convinced that any curriculum needed to be more stimulating than one based on Roman culture. Every attack, therefore, on the supremacy and status of a classical education was tantamount to being a statement of support for studies which could replace some or all of the subjects involved. Luther protested against the ecclesiastical schools and their Latin curricula,[2] Rabelais had visions of an education where the development of the intellect was through the senses [3] and Comenius, through his Great Didactic showed how such an education could be achieved.[4]

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1. MONROE (1907) A Textbook in the history of Education, p.252
2. MONROE (1907) ibid. p. 413
3. URQUHART & MATTEAUX (1864) The Works of Francis Rabelais, Vol. 1. p. 183
4. KEATINGE (1896) The Great Didactic of John Amos Comenius, p.326-354

In England the old public schools had as their primary objectives the distancing effect produced by a curriculum which was totally devoid of connections with the economic survival of the pupils. Such an example of non-utilitarian, liberal and gentlemanly education was used as a model by the largely moribund endowed grammar schools when they developed the channel whereby children from middle class families were prepared for professional life.

Many of the new upwardly mobile families would have preferred the education of their sons to be along different lines from those they were offered but they accommodated their demands to the gentlemen's curriculum in order to gain access to their world and its consequent advantages in career terms. The importance attached to the classics had a profound influence on the timetable where classical studies could occupy three-quarters of the time of the pupils.(1) Non-classical subjects were treated with contempt; science was taught from textbooks and not in the laboratory and no one took mathematics seriously.(2)

Constructive criticism produced different solutions to the problem. Milton would have preferred Latin and Greek to be replaced by useful subjects.(3) Petty advocated practical work for children of parents of the highest rank (4) and Moxon disclosed the

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1. BAMFORD (1967) The Rise of the Public School, p.62
2. OLGIVIE (1957) The English Public School, p.185
3. MASSON (1896) The Life of John Milton, Vol.111, p.240
4. PETTY (1647) Advice to Samuel Hartlib, pamphlet

mysteries of the crafts as much for the information of the aristocracy as for the apprentice.[1]

A second and larger channel of education was associated with apprenticeship within the institution of the Craft Guilds where indentures included provision for periods of instruction in reading and writing.[2] Though primarily industrial and vocational, the Guilds were closely associated with the habits and needs of social life and not only was the apprentice to be made into a good workman but also into a good citizen - a Protestant ethic to be remembered later when the system of state education was being discussed, introduced and developed.

Paradoxically, while it was suggested that handwork could be used to provide an additional and worthwhile experience for the sons of the relatively few rich and influential and as an essential element in the education of the apprentice, the proceeds of the sale of handwork produced by the poor and abandoned in the farm and industrial schools were used to alleviate their poverty and also to provide them with the rudiments of an education.

Whether being used as an adjunct to the education of the elite, the core component in the training of the apprentice or as a survival activity for the poor before the introduction of a state

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1. MOXON (1677) Mechanix Exercises
2. SALZMAN (1923) English Industries of the Middle Ages, p. 340

system of education, the intellectual benefits arising from practice in the use of materials were recognised. At one end of the social scale, Rousseau would have Emile learn a trade, not to enable him to earn a living, but as a means of mental training, a basis for intellectual improvement and therefore a vital part of the process of education.(1) At the lower end of the social scale, Locke expected that instruction in crafts would promote habits of thinking and forming judgements and would be more important educationally than instruction in the established subjects of the curriculum.(2) In theory, intellectual benefits were available to children at all levels of society through the medium of educational craftwork.

In practice, the curriculum within the endowed grammar schools was restricted to the study of Greek and Latin, often because of the clauses in the endowment deeds that had been drawn up when the study of classics had reached a height of achievement.(3) When Brougham investigated the education of the lower orders (4) he found that for the majority of children in England's tractless areas of educational destitution, such theories concerning the educational values of new areas of knowledge were an irrelevance They had no schooling.

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1. ROUSSEAU (1677) Emilius and Sophia, Vol. II, p.95
2. WATSON (1921) Encyclopaedia and Dictionary of Education, p.994
3. Lord Eldon's Judgement (1805)
4. BROUGHAM (1816) Report of the Parliamentary Committee on the Education of the Lower Orders

He reported that there was an unabated and daily increasing desire of the poor in every part of the country for their children to receive a basic elementary education, even though the existing schools kept their children barely long enough to give them a primary education in keeping with their social and financial circumstances. The labour of the young was an economic necessity for survival. Brougham recommended the provision of parish schools to fill the gaps in the education then being provided by charitable institutions. The reaction of Government, some sixteen years later, was to channel the first grant to be voted for school building through the National Society and the British and Foreign Schools Society.(1) Half a century later, Brougham's original proposal was implemented.

COMPULSORY EDUCATION

The scant support given to the notion of a compulsory state-provided education reflected the outcome of conflicting views and pressures that were external to Parliament. The philosophical radicals called for government intervention on the grounds of human investment while the evangelical conservatives saw a state system of secular education as a threat to the teaching of traditional Christian values. Within Parliament, the years between Roebuck's unsuccessful attempt to obtain a state system of education and Forster's Elementary Education Act covered a wide

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1. ALTHORP (1833) Report of the Committee of Supply

spectrum of argument concerning the wisdom or not of providing state education for the masses. Roebuck's socio-political argument saw education as being instrumental in promoting political tranquility and public virtue in early Victorian days. Forster allied education with mid-Victorian industrial prosperity. An educated workforce was needed to understand the technology of the day and was the principal means of meeting the requirements for skilled manpower in the new industrial world. Uneducated labourers were, for the most part, unskilled labourers.

The period leading to the eventual introduction of a compulsory educational system for all was slow and tortuous, depending, as it did on the setting up of an effective administrative structure to control it. This pace was in keeping with normal procedures of government when a large expenditure of public funds was involved. This was the identification of the problem and its investigation by Commissioners, the publication of their Report and recommendations and the resulting governmental legislation. The evaluation of the intervention, often many years later, followed by a further Report and Code, helped to consolidate the existing patterns of practice before further action was initiated.

The debates leading to state intervention in education in the nineteenth century were complex with different interest groups seeing education as a means of achieving their own particular ends. Once intervention was a reality, the discussions and debates that contributed to the development of a system of state education were

concerned with two groups of issues - both of which had to be acceptable to those who were responsible for administering the grants. The first group was composed of conceptual issues relating to the proposed curriculum. The problems included: who was to receive education; the level and duration of the instruction and what would be the minimum acceptable curriculum? The second group of problems consisted of the operational issues: buildings to accommodate the pupils, teachers to instruct them and finance of the day to day running of the schools.

NINETEENTH CENTURY ELEMENTARY EDUCATION

The school curriculum, being fashioned under the impact of social and historical pressures as well as educational reasoning, reflected class structure. Elementary education for children of the poorer classes at the time of the Newcastle [1] inquiry finished for the majority of children when they were eleven with one child in twenty remaining in school after the age of 13. That it should remain sound and cheap made sense at a time when the country was concerned with the economic after effects of the Crimean War. The fact that it failed to meet these criteria was made clear in the Report - the first comprehensive survey of English elementary education. Voluntary efforts, supplemented by Government grants, had not brought about a general diffusion of sound elementary education amongst all classes of the poor. There were too few schools and only one in four of the pupils

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1. THE NEWCASTLE REPORT (1861)

attending these received a good education, partly because teachers concentrated on the older children at the expense of the younger.

Making grants dependent on the success of pupils in a restricted curriculum of reading, writing and arithmetic (with plain needlework for girls) discouraged the study of other subjects. Providing no grant for pupils over the age of 12 virtually excluded older children from the elementary schools. As Lowe stated in Parliament,

> 'If education was costly it should at least be efficient and if it was inefficient it should at least be cheap' (1)

THE 1870 EDUCATION ACT

The fact that it became neither gave Forster cause for complaint when he introduced the 1870 Elementary Education Bill.(2) In spite of large sums being expended, there were

> 'vast numbers of children badly taught, or utterly untaught, because there were too few schools and too many bad schools, and because there were large numbers of parents who cannot or will not send their children to school' (3)

To answer the demand from all parts of the country for an efficient system of national education, he proposed to cover the

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1. LOWE (1863) House of Commons speech on The Revised Code quoted in MACLURE (1973) Educational Documents p.79
2. FORSTER (1870) Elementary Education Act
3. Speech by W.E.FORSTER in House of Commons February 17th, 1870

country with good schools, to complete the voluntary system and to fill up the gaps with the least possible expenditure. Forster equated the country's future industrial prosperity with the speedy provision of elementary education with an extended curriculum. A new grade VII was introduced to the schools as a recognition that pupils were staying on longer. The range of obligatory subjects had to be widened throughout the school by the addition of specific and class subjects and some emphasis had to be placed on a practical dimension in the curriculum, such as manual training for boys and girls.

Cookery was permitted from 1875 under the Elementary Code. The vocational and home economic values of practical work for girls had long been accepted as an essential part of their curriculum and needlework had been taught from a manual issued by the British and Foreign School Society in 1816.(1) A case for the introduction of Manual Training in wood and metal(2) was made out by Samuelson (3) and supported by Cross (4) with the first grants being paid in 1891. Although this was a recognition of Manual Training as a suitable subject for boys, the vocational reasons given by the administrators for its introduction were in general, at variance with the educational reasons given by teachers who had been trained in Swedish sloyd or English Manual Training techniques.

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1. REPORTS OF H.M. INSPECTORS OF SCHOOLS (1852) p.113
2. The work to be done, as far as possible, out of normal school hours.
3. THE SAMUELSON REPORT (1882-4)
4. THE CROSS REPORT (1888)

19TH CENTURY INFLUENCES ON THE ORIGINS OF MANUAL TRAINING

Bennett's detailed researches [1] into early European forms of educational craft suggest that Manual Instruction, as introduced into schools in England, had origins in the new and vital force of educational philosophy and pedagogic method that had been developed by Pestalozzi in the early part of the 19th century. Influenced by Rousseau's theories of education, Pestalozzi had put into operation in his own school at Yverdon, a child-centred approach to education that was based on the child's own activity. Such a radical method of instruction was reliant on the quality of teachers and their ability to provide the conditions necessary for his form of teaching to take place.

Pestalozzi's practical work created an international interest. Brougham visited Yverdon and reported favourably to Parliament.[2] He also visited Hofwyl where Fellenberg's Institution, run on Pestalozzi's principles, was the subject of over one hundred published reports by visiting educationalists and statesmen. [3] Froebel took Pestalozzi's concept that faculties were developed by exercise, added to it the doctrine of self-activity, and based his Kindergarten system on the basis tenet that the child

> 'only understands thoroughly that which he is able to produce' (4)

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1. BENNETT (1926) History of Manual and Industrial Education before 1870
2. BROUGHAM (1818) Evidence before the Education Committee of the House of Commons
3. BARNARD (1854) National Education in Europe, p. 351
4. SALOMON (1896) Theory of Educational Sloyd, p.139

Pestalozzi's desire to involve the intellect and enthusiasm of the child, coupled with the high status given to handwork in Froebel's system of 'varied occupations' provided the basis for the tentative experiments into education through self-activity. The system which was to affect all educational systems of the western world and

> 'came to be considered as an educational process for the complete moral, physical and intellectual development of the child' (1)

was based on the Swedish folk craft of Hussl̈öjd, or home sloyd.

The task of presenting sloyd as a viable and integral part of a balanced curriculum for all pupils fell to Cygnaeus of Finland in the late 1860's. The task of extending the analysis of handwork processes (2) to include suitable work for children beyond the Kindergarten stage, fell to Abrahamson and Salomon of Sweden in the early 1870's. Their school for boys and girls at Naas also served as an international teacher training centre where free instruction in several languages was given to foreign teachers from every country in Western Europe. (3) The influence of sloyd on our own education system was enhanced by the publication in

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1. SLUYS (1889) Manual Training in Elementary Schools for Boys. No.1, Part 1, p.34.
2. This may have been influenced by the Russian mass production system of special vocational educational exercises devised by Della Vos.
3. As a result of this Salomon gives the following dates when educational sloyd was recognised in European countries: 1876 - Holland, 1878 - Germany, 1879 - Norway, 1881 - Belgium and Denmark, 1882 - France and Switzerland, 1883 - Austria, 1884 - Russia, 1893 - England: see Theory of Educational Sloyd (1896) p. 144 - 150.

English of Salomon's manual on the theory relating to educational sloyd [1] and his handbook for teachers. [2] An added attraction was that the craft could be taught in a school classroom.

Blachford summarises the total impact of sloyd thus:

> 'The sloyd method controlled and gave direction to a new subject in new national systems of education at a time when no specialist teachers existed. In this it did a good job; it launched the subject well and truly in all the educational systems of the western world.' (3)

At the same time as teachers were returning to this country from Naas and introducing courses in sloyd, other experimental manual instruction was being undertaken in various parts of the country. [4] As non-specific vocational training, Commissioners [5] saw it as a partial substitute for the crumbling apprenticeship system. The well-documented London experiment of 1885, [6] jointly sponsored by the London School Board and the City and Guilds of London Institute, developed as a school discipline into educational crafts. It attracted the attention of Members of Parliament and educators from overseas and pointed the way to future developments. It also provided the first English publication on Manual Training. Ricks, an inspector of the experiment, produced a modified course of Naas sloyd for use in English schools. [7] Barter, a teacher in the experiment,

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1. SALOMON (1896) The Theory of Educational Sloyd
2. SALOMON (1904) The Teacher's Handbook of Sloyd
3. BLATCHFORD (1961) A History of Handicraft Teaching, p.28
4. Sheffield - 1880, Manchester - 1883, Birmingham 0 1884.
5. Second report of the Royal Commissioners on Technical Education (1884) p.524
6. BENNETT (1937) History of Manual and Industrial Education 1870-1917, p. 235-8, plus personal accounts published in Manual Training Teacher, Vol 111: 1908 - 1909
7. RICKS (1889) Hand and Eye Training

published a course that was based on traditional English joinery.[1] This not only played a major role in the development of Manual Training for many decades but, because of its popularity, in no small way contributed to slowing down the progress of the introduction of sloyd into schools in England.

MANUAL TRAINING IN THE CURRICULUM

In 1890, Manual Training was officially recognised as a grant earning subject in elementary schools.[2] Magnus, Director of the City and Guilds of London Institute commented that

> 'State aid was most important, as without it manual instruction might have been restricted to Board schools in which less than one half of the children of the people were educated. The voluntary or denominational schools who received no aid from the rates were equally favoured with the Schools Boards in obtaining grants from government funds. Manual Training became more than just a new educational code, it entered all types of school, being subsidised directly by the state'. (3)

This stimulus resulted in the rapid growth of the subject, the extent of which is shown in Table 1 which gives details of the grants for manual training during the seven years they were administered by the Science and Art Department.[4] From 1895, grants were payable only for courses which helped to provide a sound foundation of technical training. They were withheld

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1. BARTER (1892) Woodwork: The English Sloyd
2. FORM 813 (1890) Department of Science and Art
3. BLATCHFORD (1961) **ibid.** p.50
4. BLATCHFORD (1961) **ibid.** p.51

TABLE 1 GRANTS FOR MANUAL INSTRUCTION FOR SCHOOLS IN ENGLAND AND SCOTLAND: 1891 - 1897

YEAR	No. of SCHOOLS	No. of PUPILS	£ GRANT
1891	63	2,568	600
1892	169	8,905	2,352
1893	352	17,851	4,887
1894	574	30,041	8,029
1895	908	67,402	16,284
1896	1,067	85,150	19,506
1897	?	106,345	25,579

from schools which provided manual instruction as a general educational exercise in the form of sloyd. (1) In 1898 the responsibility for payment of grants was transferred to the Board of Education - newly created by the amalgamation of the Science and Art Department and the Education Department.

THE EDUCATIONAL LADDER

Movement by pupils from elementary to secondary education was available for the exceptional minority. Elementary schools were charged with the task of assisting these pupils to obtain this extension to their education.

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1. DEPARTMENT OF SCIENCE AND ART (1895) Circular Letter No. 189

> 'It will be an important subsidiary object of the School to discover individual children who show promise of exceptional capacity, and to develop their special gifts (so far as this can be done without sacrificing the interests of the majority of the children) so that they may be qualified at the proper age into Secondary Schools, and be able to derive the maximum of benefit from the education there offered them.' (1)

This statement was, indeed, a breach of the persistent and widespread view that education beyond the elementary level was the prerogative of the more favoured classes. Yet the discussions and debates among the administrators during the latter half of the nineteenth century included the slowly maturing concept of the provision of secondary education for children as a continuation of their elementary education. The success with which the School Boards filled the gaps in elementary education exposed the need for a similar expansion of secondary education.

Samuelson had recommended that this was the job for the new County and County Boroughs since the School Boards were, for the most part, far too small to undertake this task. Providing children with an expanding curriculum could be achieved by widening the existing elementary curriculum to give all pupils the opportunity to advance beyond the stage of obligatory subjects, or it could be achieved by the movement of the select few from elementary schools to those where an extended or secondary education was already being provided.

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1. BOARD OF EDUCATION (1904) The Elementary Code: Introduction

The first was carried out by way of recurrent upthrusts in some elementary schools but was hindered by the need to concentrate on teaching obligatory subjects for the purpose of obtaining grants. In any case, it was entirely dependent on parents allowing their children to stay at school long enough to benefit from the courses provided. The second involved the movement of children from schools that were providing the education considered suitable for their social group. They would move to schools that were providing an education that could be above their social class and where there could well be a conflict of culture for the pupils. Such would be the case where a child moved to a grammar school with its distinctive highly selective type of classical-oriented curriculum. By the end of the century, this educational ladder from elementary to secondary school would, according to Lowndes [1] have been climbed by no more than three to six children in every 100. This was a very long way from the call for secondary education for all.

19th CENTURY SECONDARY EDUCATION

Taunton's recipe [2] for the improvement and extension of secondary education was made at a time when there was no central policy-making body in existence. His Report produced answers to the questions as to who was to receive education, at what

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1. LOWNDES (1937) The Silent Revolution, p. 101
2. THE TAUNTON REPORT (1868)

level, of what duration and what would be the minimum curriculum acceptable to those providing the funding - in this case, largely fee-paying parents. His division of schools into three grades, each with its own curriculum, was linked with the length of school life of its pupils and

> 'reflected the general contemporary opinion of the type of schooling which was thought fitting for particular occupations and well marked social ranks.' (1)

The Report illuminates not only the views of administrators but also the attitudes of parents towards the values they placed on existing curricula and their judgement of the status of subjects being taught when measured against social, professional and educational criteria. The degree to which the high prestige classical studies, in the form of Latin, formed part of the curriculum for each group, was a measure of its acceptance as a contribution to high social status or its rejection because it was considered an educational luxury. The further division of the first and second grades of schools emphasised the different values that parents placed on the purpose of education when considered against the needs of their own children.

Administrators believed that parents sending their children to the first grade of school until the age of 18 wanted for them a liberal education to be followed by a university course. A minority of parents, the gentry with independent means, required Latin to remain in the forefront of the education provided but

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1. ADAMSON (1930) English Education 1789 - 1902, p. 259

the curriculum could be widened to include mathematics, modern languages, natural science and religious instruction. The majority of parents, the professional and business men, required a cultivated education for their sons to match their own. Classics and mathematics would have to be studied for their own sakes. Their requirement was for a cheaper education rather than a wider curriculum but it would still have to give high social advantage to their sons who would eventually reach high positions in the professions.

The administrators thought that the second grade of school was for children who remained until they were 16 years old and who would then move to professional training rather than a university education. An affluent minority of parents of this group accepted that the curriculum could be expanded but only if Latin remained an important element in the curriculum. They saw the subject as being of real practical use in the professions, as contributing to social status and as being educationally sound in that not only did it provide mental discipline but it also helped in the study of modern languages. However, the majority of parents from this group would expect their sons to enter the world of commerce. Education for them needed to be as cheap as possible with a curriculum that was general in character and containing subjects which could be turned to practical use in business: English, mathematics, science and modern languages. These parents would barely tolerate Latin since their children were not at school long enough to acquire a classical culture, however valuable it might be.

The third grade of education, which stopped at 14, belonged to the whole of the lower middle class - the smaller tenant farmer and tradesman and the superior artisan.[1] A unanimous aim of the Commissioners was that education for this grade of school should be general and not vocational and should reflect the views of the parents that the real need was for

> 'very good reading, very good writing and very good arithmetic' (2)

Extensions to the curriculum would include mathematics, natural science, drawing, religious instruction and modern languages. The Report stated that schools for this grade of education were most urgently needed and that eight out of ten children for whom secondary education should be provided would want no more than what these schools could offer. Even so, existing endowment scholarships ought to be provided to enable poor but gifted pupils, whatever their social status, to transfer from lower to higher grade secondary schools. Taunton's recommendations broke the age-old monopoly of the classics and found a place in the curricula for mathematics, science and modern languages. The balanced curriculum was, in theory, a step nearer.

Despite the reforms introduced to expand the quantity and improve the quality of secondary education, there existed a need to administer effectively the vast range of schools within this category. This prompted the formation of a Commission to consider the best methods of establishing a well-organised

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1. This gives an interesting example of the comparative level of status of occupations
2. CANON MOSELEY's evidence to the Taunton Commission (1868)

system of secondary education in England.[1] The Commission's two principal recommendations were a single comprehensive central authority and the creation of Local Education Authorities. Both recommendations were implemented and played a major part in controlling the development of education throughout the twentieth century.

The Commission was also interested in discussing the function and content of secondary education and gave, within a description of education as a whole, a precise definition of its nature. Essentially, it should be a comprehensive continuation of elementary education where boys and girls were instructed with special regard to the profession or trade they wished to follow. Secondary education should not be divorced from elementary education.

The academic curriculum should be retained with the best elements of the fundamental and indispensable older system being harmonised with modern requirements, to give a liberal education. But the Commission insisted that a technical element, which they regarded as equally indispensable, should also be included in the curriculum and they did so fully believing that they had the weight of public opinion with them. The combination of literary, scientific and technical elements would go a long way towards producing a more balanced curriculum to meet the vocational requirements of boys and girls in secondary schools.

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1. THE BRYCE REPORT (1895)

19th CENTURY MANUAL TRAINING AND THE SUPPLY OF TEACHERS

Within the development of a national system of education, Manual Training was gradually introduced into the curriculum during the latter part of the nineteenth century by means of a system of grants and payment by results. The growth in its development can be summarised as being ten years of experiment from 1880 to 1890 and ten years of recognition from 1890 to 1900. Whether Manual Instruction was to add to the vocational prospects of the few or to the balanced education of all was a topic of continuing debate and remains so at the present time. Similarly the shortage of specialist teachers was, and remains still, a particular problem because of the need for them to have dual qualifications of craftsmanship and pedagogy.

As Training Colleges had not started training in Manual Instruction [1] men were accepted from the various woodworking trades into the profession on the strength of their trade training, experience and high qualifications from the City and Guilds of London Institute. Existing professional teachers could gain Manual Instruction qualifications from 1891 by attending City and Guilds part-time courses or by obtaining sloyd teaching diplomas issued by the Educational Handwork Association. Prospective entrants to the profession could enter through the pupil-teacher system which, in 1896, extended to take boys who

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1. Westminster Training College offered woodwork as an option subject about 1892.

were interested and who were proficient in the subject. The first move towards the provision of specialist teachers in the new work was made by Sir Philip Magnus, Principal of the Central College of the City and Guilds of London Institute when, in 1886, he organised a special training class for prospective teachers of manual work. It was this group, consisting partly of skilled craftsmen and partly of professional teachers, who supplied the teachers of Manual Training for many years in the larger cities. It was these pioneers who founded the National Association of Manual Training Teachers in 1891 (1) with Sir Philip Magnus as its first President.

The amalgamation, at the end of the century, of the Science and Art Department with the Education Department removed their conflicts of ideals and purpose and with them went

> 'the greatest handicap to the free development of Manual Training in England' (2)

Other conflicts remained, however, many of which have modern counterparts such as:

a) the disparity of ideals between teachers and administrators,

b) differences in status accorded to teachers and instructors,

c) opposition to curriculum development,

d) the unequal provision of resources,

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1. With various modernisations in title it has functioned continuously and is today the Educational Institute of Design, Craft and Technology.
2. BENNETT (1937) History of Manual and Industrial Education 1870 - 1917, p. 245

e) the contrast between the public's vocational image and the schools' educational approach to practical work, and

f) the opposing teaching strategies.

The Board of Education emerged as a powerful and purposeful force, responsible, in the new century, for the progressive building of a national education system against a background of political, economic and social pressures. The purpose of public elementary and secondary schools was expressed in official Reports and the position of Manual Instruction within the system was clearly enunciated.

THE 1902 EDUCATION ACT

The Balfour Act put into operation some of the recommendations of the Bryce Report. In doing so it provoked political and religious passions but succeeded in forming a charter of incorporation of English education which, hitherto, had consisted of disconnected and often discordant elements. It abolished elementary school boards and made the County or County Borough the one authority for every form of education except University education. By putting Voluntary and ordinary elementary schools on the same footing, the Act made it easier for the standard of work in the two to become identical. Furthermore, the impartial administration of the new Local Education Authorities put an end to the sort of problems which had arisen in the past through schools being administered by religious organisations. The Act made possible the eventual build up on an almost complete network of well-equipped secondary schools, a vigorous system of technical education and the establishment of teacher training colleges.

Within the schools of the elementary system, the Day School Code [1] replaced the list of obligatory, class and specific subjects by a list of subjects which elementary schools were expected 'as a rule' to teach to pupils over the age of 7. The core curriculum was extended to include English, Arithmetic, Geography, History, Music and Physical Training. Girls were required to take Needlework, Cookery, Laundry Work and Dairy Work and boys to take Drawing, Gardening and Manual Instruction. Additionally, a range of optional subjects contributed to the composition of a balanced curriculum which would be acceptable in comprehensive schools today. The block grant replaced the elaborate system of payments and freed the schools from the requirements and restrictions of examinations by visiting inspectors. The way was open for a liberalisation of syllabuses and schemes of work.

The Elementary Code projected elementary education as a training in fellowship as it taught children, according to their different needs, to fit themselves practically as well as intellectually for the work of life. It was essentially character forming and laid the foundations for conduct in the pupils so that they would

> 'become upright and useful members of the community in which they lived and worthy sons and daughters of the country in which they belonged' (2)

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1. BOARD OF EDUCATION DAY SCHOOL CODE (1902)
2. THE ELEMENTARY CODE (1904): introduction

As well as outlining the purpose of the more academic subjects included in the curriculum, it stated that the school must encourage to the utmost the children's natural activities of hand and eye by suitable forms of practical work and Manual Instruction.

Centralised control of the curriculum, in the form of regulations, was replaced by a Handbook of Suggestions. The theme of liberalisation was embodied in the statement that,

> 'The only uniformity of practice that the Board of Education desire to see in the teaching of Public Elementary Schools is that each teacher shall think for himself, and work out for himself such methods of teaching as may use his powers to the best advantage and be best suited to the particular needs and conditions of the school.' (1)

MANUAL TRAINING

Teachers of Manual Training were slow to take advantage to the freedom now offered them to control the syllabus. Teachers had access to tried and tested schemes of work that had been published from 1889 and, because of their popularity, remained in print. Many of these schemes imposed the discipline of an exact sequence of work on the pupils and restricted the teacher by including a list of materials which allowed no variation to the scheme.(2) Within five years of the publication of the Handbook, the Board expressed concern that the methods used in Manual Training were too rigid and formal.(3) The teacher

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1. Handbook of Suggestions for Teachers (1905) p. 6
2. ROERIG (1959) Woodwork Bibliography, p.20 et.seq.
3. Manual Instruction in Public Elementary Schools (1910)

allowed too little initiative to his pupils and, where there was a local Manual Training organiser, too little freedom was allowed to the teacher.[1] Future schemes of work would have to be drawn up after consultation between the teacher and the Headteacher.

A major concern of the Board was the position of the subject in relation to accommodation. The Centre system was popular and boys were eager to attend. Teachers were competent and the work had high educational value, even if it was within somewhat restricted limits. But there were too few Centres and Manual Training rooms. In 1908, only 40% of boys over the age of 12 in elementary schools in England and Wales were registered as attending Manual Training classes and of these only 3 out of 4 attended regularly for at least half a year. 54% of autonomous Boroughs and Urban Districts had no Manual Training centres or classes. Neither did one third of the autonomous Counties: and the remainder had only a few.

Within the curriculum, Manual Training was becoming divorced from the remainder of the subjects and the Board declared that there should be a closer link between Manual Training and other school subjects.[2] The work should aim to produce a useful handiness for the boy and not the skills of a tradesman. But

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1. The West Ham Scheme of 1910 stated implicitly that 'no alteration to the scheme is to take place without the consent of the organiser'
2. The generic term 'correlation' was officially used to describe teaching strategies which involved two or more curriculum subjects. Modern School Technology would be classified as correlation in 1920 terms.

there should be an appreciation of the need for industry and invention, and of the possibilities and attractiveness of manual work.

SECONDARY EDUCATION

The period following the 1902 Act saw a surge in secondary education comparable with that in elementary education after 1870. The recommendations by Bryce that there should be a technical component to the secondary school curriculum was rejected. The 1904 Regulations for Secondary Schools,[1] derived from the 1902 Act, effectively ensured that the new county secondary schools would follow closely the conventional pattern of the old public and grammar schools and that pupils would be subjected to external examinations. The effects were, as Dent indicated, three fold:

a) an unreal and unnecessary division between secondary education and technical education was created,

b) as only one form of secondary education was made available, many, if not most, pupils were forced into an educational mould unsuited for them and, consequently, in numerous cases into unsuitable careers, and

c) since an academic education at the secondary level was manifestly attainable only by the intellectually more able minority, it delayed serious consideration for many years of the idea of secondary education for all.[2]

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1. BOARD OF EDUCATION (1904) Regulations for Secondary Schools (1904)
2. DENT (1949) Secondary Education for All, p. 33, 34 - 37

Gordon and Lawton [1] suggest that the reason for the rejection of the technical element lay in England's position as the world's financial centre. As such, it required its educational system to provide clerks rather than technologists. It was therefore not only politically expedient but economically necessary to develop grammar schools - with an increase in free places and scholarships - rather than elementary schools and secondary education of a scientific and technical kind. Because of this, and because specialisation in science could only begin after a good deal of general ground had been covered, Britain failed to develop an adequate scientific and technical curriculum.

The generalistic approach to secondary education was specified in the 1904 Regulations which defined the secondary school as one which

> 'offers to each of its scholars up to and beyond the age of 16, a general education, physical, mental and moral, given through a complete graded course of instruction of wider scope and more advanced degree than that in Elementary Schools' (2)

Specialisation could only begin after a solid basis of general education had been given and, even then, was not to be directed towards specific occupations or professions. The obligatory core curriculum consisted of English Language, English Literature, Geography, History, Mathematics, Science, Physical Training,

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1. GORDON and LAWTON (1978) Curriculum Change in the Nineteenth and Twentieth Centuries, p. 66
2. REGULATIONS FOR SECONDARY SCHOOLS (1904) prefatory memorandum

Drawing and Music with Housewifery for girls and Manual Training for boys. Although officially in force only until 1907, the recommendations probably continued to influence timetables for some time after that.

MANUAL TRAINING

Manual Training in secondary schools benefited from the large number of schools built as a result of the 1902 Act. There was a good provision of workshops and many of these were built as part of the main school building. Regulations for secondary schools from 1902 [1] stated that Manual Instruction in wood and metal must be given throughout the school for $1\frac{1}{2}$ hours weekly and must be in the use of ordinary tools.[2] In addition, drawing [3] for half an hour was given. Instruction could be given by a regular teacher in order to maintain discipline but he could be assisted by a skilled artisan to provide the demonstrations of technical skill that the ordinary teacher would probably not possess.[4]

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1. REGULATIONS FOR SECONDARY SCHOOLS (1902 - 1907) which, in the case of Manual Training, remained operative until 1926.
2. This effectively precluded any further instruction in sloyd since the contentious 'sloyd knife' was not part of an English craftsman's tool kit.
3. Drawing refers to Technical Drawing.
4. Similar arrangements existed in elementary schools.

EXAMINATIONS

The Consultative Committee reviewing examinations in Secondary Schools [1] considered that if handwork was to remain a living study in secondary schools, it should be recognised in any examination scheme. If not, it would be ousted from the curriculum, however well disposed teachers and pupils might be towards it. It proposed an examination procedure whereby an examiner would visit schools to inspect coursework, conduct a practical examination and submit a marks list to the examining board.[2] In England, the first examinations in Technical Drawing were held in 1909 [3] and in the theory and practice of Woodwork and Metalwork in 1918. [4] Thirty years were to pass before any Craft subject would be examined at an Advanced Level.[5]

SUPPLY OF MANUAL TRAINING TEACHERS

The provision of examination courses was directly linked to the supply of teachers who were qualified to conduct them. The 1913 Consultative Committee [6] confirmed that Manual Training teachers

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1. REPORT OF THE CONSULTATIVE COMMITTEE ON EXAMINATIONS IN SECONDARY SCHOOLS (1911)
2. The proposal, outlined on p.115 of the Report, is similar to the current procedure for practical examinations for the Certificate of Secondary Education.
3. Examined by the Bristol Examining Board.
4. Examined by both Bristol and the Joint Matriculation Examining Boards (Northern).
5. Advanced Level Technical Drawing was first examined by London Examining Board in 1941: Advanced Woodwork and Metalwork were first examined by the Oxford Examining Board in 1949.
6. REPORT OF THE CONSULTATIVE COMMITTEE ON PRACTICAL WORK IN SECONDARY SCHOOLS (1913), p. 230

in secondary schools ranged from working carpenters who were responsible for school maintenance to artisan-teachers and qualified secondary teachers who had acquired some practical skill. The attention of Training Colleges had been directed to the problem, but the numbers of qualified Manual Training teachers from this source were far below the requirements. The matter of graduate equivalent qualification in Manual Training had been under consideration since the turn of the century. A positive approach had been made by Judd [1] when giving evidence before the Consultative Committee. He recommended that London, Leeds and Birmingham Universities should each establish a department of Manual Arts and Crafts and that the degree or diploma issued should cover all the essential pedagogy and technique of school Crafts and should be recognised by the Board of Education.

THE 1918 EDUCATION ACT

When introducing the 1918 Education Bill to Parliament,[2] Fisher likened the logic of extending the franchise to the similar logic of extending education to all. He spelt out the wider values attributable to education. As well as being a source of pre-vocational training, it also had social values in that it was an aid to good citizenship. It was recreational and a source of enjoyment and, as a refuge from the necessary hardships of

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1. J.H. JUDD: Superintendent of Handicraft under Manchester Authority. P. 197
2. HANSARD: 10.8.1917

industrial toil, it was therapeutic. As one of the good things of life, it had to be more widely available to children and young persons than hitherto. To avoid the competing claims of industry, Fisher proposed that no pupil should be allowed to leave school until he or she was 14, but his recommendation to raise the leaving age to 15 was not implemented because of national economic problems. An effective survey of the whole education system was called for and the task of providing for the progressive development and organisation of a national system of education was given to the Local Education Authorities.

One purpose of the Act was to create a universal system of compulsory part-time education for the adolescent by means of continuation schools. This system would have retained the early entry into employment. Although never implemented, the proposal undermined the growing call for secondary education for all since it would provide some continuing education to secondary level for 14 year olds even though they were employed.

Within the elementary system, the Act asked authorities to provide practical and advanced instruction within the Central schools for older and more intelligent pupils. This also applied to those pupils who stayed at school beyond the age of 14. These requirements offered the authorities and teachers opportunities to develop in the elementary schools alternative forms of secondary education to that provided in the recognised secondary schools.

The Centre system,[1] after being widely accepted since the beginning of the century, was condemned because of the physical separation of the building from the school, the residual image of the tradesman-teacher and the isolation of the subject from others in the curriculum. The Board sought to remedy the situation.[2] Local Education Authorities were reminded that, following the changes in the payment of grants, there was no reason why practical subjects should not receive every assistance to develop. Greater stress was to be laid on the value of practical subjects and their full development in elementary schools was to be encouraged. Craft was to be based on at least a two-year course involving both Woodwork and Metalwork and it was to be taught in workshops that were within the premises of the school. Instruction had to be given in the skilled use of common tools for the making of real objects serving a useful purpose which the boy could recognise. The Board saw no reason why work at the top end of the elementary school should not be vocational in nature.

A new edition of the Handbook[3] was published in 1922 and the section dealing with Handicraft, as it was now termed, was reprinted as a separate booklet.[4] The official perception of the value of the subject showed a reaction against the trend

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1. This involved one set of workshops being used by schools in a wide catchment area.
2. CIRCULAR 1161: Practical Instruction in Elementary Schools (1920)
3. HANDBOOK OF SUGGESTIONS FOR TEACHERS (1922)
4. CIRCULAR 1292: The Teaching of Handwork (1922)

towards free expression which, in the opinion of the Board, led to much slovenly toolwork. There had to be a balance between the complete freedom allowed by some teachers and the rigid series of models or exercises over-emphasising technique that were imposed by other teachers. The discipline of good craftsmanship had to be kept in mind. These comments remained unchanged in the 1929 and 1934 editions of the Handbook and imply that the criticism remained valid during this time.

The apparent lack of appreciation of the educational values of all forms of Craft was summarised by Sharman.

> 'The greatest disadvantage under which the handwork teachers carry their labour is that material results, as models, come much slower than written or spoken exercises and bear upon them little obvious evidence of the combined mental and physical struggle of the boy. These tangible results are likely to be taken solely at their face value, and their deeper significance forgotten. Not infrequently, and quite mistakenly, these rude efforts are used as a basis by those in authority with which to form a judgement as to the efficiency of the teaching and the educational value of the subject.' (1)

Meanwhile the shortage of Handicraft teachers in the 1920's had not been met by the Training Colleges. The City and Guilds of London Institute prepared a scheme of examinations that made it easier for the Handicraft teacher to become certificated even though he was not college trained. At the same time, certain exemptions were granted to certificated teachers who wished to add handicrafts to their existing certificates.

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1. SHARMAN (1923) Classroom Handwork , p. viii

SECONDARY EDUCATION FOR ALL

The segregation involved in the elementary and secondary systems of education was a constant source of irritation to those who advocated secondary education for all. The conflict of views between those who wished to keep elementary and secondary education as distinct as possible from each other and those who wished to replace the two parallel systems by a single system was particularly evident in the 1920's and 1930's. It was largely a political issue of long-standing concern. The elitist grammar school curriculum had been condemned at the 1897 Trades Union Congress but England remained a country of elementary education for all and secondary education for a few.

The ideal of secondary education for all became the policy of the Labour Party and was restated by Tawney in 1922.

> 'The Labour Party is convinced that the only policy which is at once educationally sound and suited to a democratic community is one under which primary education and secondary education are organised as two stages in a single continuous process ..... Its objective is the development of public secondary education to such a point that all normal children, irrespective of the income, class or occupation of their parents, may be transferred at the age of eleven plus from the primary or preparatory school to one type or another of secondary school and remain in the latter until 16.' (1)

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1. TAWNEY (1922) Secondary Education for all: A Policy for Labour, p. 15-16

It was clear from this statement that the more secondary education was developed, the more essential it would be to have the widest variety of type among secondary schools. These differences were explored by the Hadow Committee which was set up within ten days of the formation of the first Labour Government in 1923. The terms of reference included the charge to

> 'consider and report upon the organisation, objective and curriculum of courses of study for children who will remain in full-time attendance at schools, other than Secondary Schools, up to the age of 15, regard being had on the one hand to the requirements of a good general education and the desirability of providing a reasonable variety of curriculum, so far as is practicable, for children of varying tastes and abilities, and on the other hand the probable occupations of the pupils in commerce, industry and agriculture.'

The Report of the Committee [1] was, according to Dent,

> 'to change the structure of public education in England and Wales in such a way as to bring into full sight the ideal of secondary education for all.' (2)

The Report put forward an essentially traditional view of education suggesting different kinds of curriculum for different kinds of people up to the age of 15 or beyond. Whether the children were to be classified as academic or non-academic would be decided by examination. About 8 children in every 100 would follow a predominantly literary or scientific curriculum in the Grammar school until the age of 16+. The remainder, for at least four years after 11+, would follow a realistic or practical curriculum in Modern schools. Although these schools would

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1. THE HADOW REPORT (1926) : Terms of reference
2. DENT (1949) **ibid.** p.59

provide a more practical and shorter period of education, they were not to become inferior secondary schools. Technical education was considered to be vocational education, which should not start before the age of 13.

The Report was important for the fortunes of Handicraft. It urged that the development of post-primary education should have a practical bias, not with the aim of giving a technical or vocational education, but because it could use 'realistic' studies as an instrument of general education. The Report recognised that

> 'There are many children who think with their hands and will profit greatly by a method of instruction which follows the natural bent of their capacity.' (1)

> 'There are many minds, and by no means of inferior order, for which the most powerful stimulus to develop is some form of practical or constructive activity.... The type of education best adapted to the requirements of a large proportion of the children between 11+ and 15+ years of age is one which has less 'academic' bias, and gives a larger place to various forms of practical work, than is customary in 'secondary' schools to-day.' (2)

The Committee advocated courses in Woodwork and Metalwork for girls. It saw one of the most difficult problems which would have to be faced in the development of schools as being the provision of a sufficient number of teachers who had the craftsman's outlook and the craftsman's interest.

The Committee recommended that the terms used to describe work done in schools should adequately reflect the many developments which had taken place since the subjects were introduced into the

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1. THE HADOW REPORT (1926) p. xx
2. ibid. pp. 83 - 84

curriculum. (1) Taking its own advice, it replaced the term Manual Training with Handicraft. In so doing it tended to enhance the image of the subject, formerly seen as a vocational craft taught by a tradesman in an outbuilding, now an educational activity taught by a qualified teacher in a well-equipped workshop. The value of Handicraft, at the very least, would be the perpetuation of craftsmanship at a time when the country was experiencing some of the worst aspects of mass production in household goods.

The economic collapse during the early 1930's did immense damage to the education system. Hadow's reorganisation proceeded unevenly and there was an embargo on school building. The raising of the school leaving age to 15 was delayed and many of the teachers who had been trained in anticipation of this were unemployed. The enforced idleness of masses of unemployed illustrated the need for schools to think hard about the idea of education for leisure and the role that Craft activities could play in this. By 1936 the embargo on school buildings was lifted and the grants restored. Local Education Authorities made grants to enable voluntary bodies to provide additional accommodation on account of the increased numbers of children who would be in the schools after 1939 when, it was believed, the school leaving age would be raised to 15.

The 1937 Handbook of Suggestions showed a new and enlightened attitude being adopted towards Handicraft with emphasis being placed on Design. The difficulty in exporting some goods had been

1. This is of particular interest since this research investigates the inaccurate and misleading labelling of schools, Departments and subjects. In 1950, Newsom in THE CHILD AT SCHOOL, p. 103, informed parents that pupils were taught Manual Training.

attributed to poor industrial design. The long-term remedy it was believed could be found in improved design education and design consultants were appointed to Colleges where specialist teachers were trained.

Training Colleges expanded their Handicraft Departments, the City and Guilds of London Institute examinations for teachers became popular and more Handicraft teachers were provided. Refresher courses were sponsored by the Local Education Authorities, the College of Handicraft and the Educational Handwork Association so that existing teachers might learn new crafts and teaching techniques.

In the midst of the economic depression in the country, the Board of Education, in 1933, had issued the terms of reference by which its Consultative Committee would consider and report on the organisation and interrelation of those schools not already considered by the Hadow Committee - the existing secondary schools. The Committee's findings and recommendations were published five years later as the Spens Report. (1)

The Committee considered that the continued concentration of subjects round the core of classical studies resulted in the neglect of some of richest creative elements of mankind. Examinations contributed significantly to the limiting effect upon the work of these schools. If the curriculum was to be thought of

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1. THE SPENS REPORT (1938)

in terms of activity and experience rather than knowledge to be acquired and facts to be stored, then a single liberal or general education for all secondary pupils was becoming impracticable.

Varying forms of education would have to be evolved in order to meet the needs of boys and girls who differed widely in intellectual and mental capacity. One solution was the creation of selective Technical High schools providing a liberal education using science and its applications as the core and inspiration. With these schools added to the existing Grammar schools and Hadow's Modern schools, there would be a tripartite organisation of secondary education. The Committee accepted the then current belief in the total validity of intelligence testing, use of which it was felt, would enable different types of curriculum to be taught to different types of pupils in different types of schools.

Existing Grammar schools, the Report recommended, should continue to provide a broad-based academic education for pupils up to the age of 18 years. Even though 85% of the pupils would not remain at school beyond the age of 16, the curriculum would be planned in the interests of pupils who intended to proceed to University. To combat overcrowding of the curriculum, pupils from the age of 13+ would concentrate on a smaller range of subjects which would include English, Modern Languages, Science or Mathematics. Whereas the curriculum had been traditionally centred round a main core of classical studies, it was suggested that a central

study of English subjects would be more suitable for modern conditions.

The purpose of the new Technical High schools was to provide a good intellectual discipline for pupils up to the age of 16 years and to provide technical courses that were related, not to one particular occupation, but to a group of occupations. The courses would be particularly suitable for those who intended to enter industry. The curriculum for the 11 to 13 year olds would be broadly similar to that provided in Grammar schools and the proposed subjects would be English, Modern Languages, History, Geography, Mathematics, Science, Engineering Drawing, practical Crafts and aesthetic subjects.

The Modern schools would continue to provide a general, practical but non-vocational education for pupils until they left school either at 15 as Hadow had proposed or at 16, as the Spens Committee itself now proposed.

The type of school most suited to each individual would be determined by the eleven-plus examination but transfer would be possible. To facilitate this, all types of school, it was recommended, should have a similar curriculum for all pupils in the 11 to 13 year age group.

A fundamental requirement of the recommendations was that there should be parity between all types of schools with regard to the provision of resources.

The Committee considered, as an alternative to the tripartite system, the feasibility of introducing the Multilateral school. In this case a general education would be provided for two or three years before pupils were divided into four or five streams to allow them to follow courses suited to their individual needs and capacities. However, they rejected Multilateral schools on the grounds that

a) the majority of pupils would gain more from being in smaller schools than in the large schools with 800+ pupils,
b) as it was difficult enough to secure adequate sixth forms in ordinary Grammar schools, because of the large proportion of pupils leaving at 16, it would be more difficult in a school where only half or less of the pupils were in the Grammar 'stream',
c) it would be difficult to find Headteachers who would be competent to control and inspire both the evolution of the Modern curriculum and the proposed reforms in the Grammar curriculum, and
d) the cost would be prohibitive in view of the expense created already by the Hadow reorganisation.

In addition to the curriculum and organisational recommendations, the Spens Committee placed emphasis on the idea of the school as a society with its life and activities being planned accordingly. The value of the hidden curriculum through extra-curricular activities was acknowledged:

> 'The typical school of the present day is to be regarded as not merely a place of learning but as a social unit or society of a peculiar kind in which the older and the younger members, the teachers and the taught, share a common life.' (1)

A contemporary commentary on the Spens Report by a member of the Consultative Committee [2] reflected on the social values of a Grammar school education as perceived by parents. The superiority of Grammar school buildings, ample playing fields, examination successes, University-oriented curricula and even school uniform all tended to give the public the idea that Grammar school children were a superior type, able to escape from a life of labour to a life of leadership and protected occupation. Efforts and self sacrifice made by the working classes to secure for their children an education which they themselves had been denied were commendable but tended to enhance the distinction in social status rather than diminish it. This would continue as long as it was thought that intelligence was associated with a particular form of education. It was as unfair to separate children at eleven into intelligent and non-intelligent by reason of their ability or lack of it in Latin, English and Arithmetic as by their aptitudes in mechanical dexterity. It was even more difficult to frame an examination for eleven year old children which would discover such tendencies. Better to adopt Sir Will Spens' division

> 'Those who can work best by the use of the tongue and pen and those whose gifts are best expressed through the manipulation of their hands. The mind is equally active on both sides.' (3)

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1. THE SPENS REPORT (1938) p. 146
2. DR. H. SCHOFIELD (1939) Conference Address to Institute of Handicraft Teachers. See Practical Education and School Craft, Vol. 36, p. 205-208
3. SCHOFIELD (1939) ibid p. 206

The tripartite organisation recommended by the Spens Report was reinforced, developed and justified by the Norwood Committee [1] and accepted by the Board of Education [2] with the reminder that there was no reason why different types of education could not be combined in one building or on one site. The Norwood Report contained exact definitions of the types of pupil who would be directed to the three types of school: the Grammar school pupil learning for learning's own sake, the Technical school pupil whose interests and abilities would lie in the field of applied science and art, and the Modern school pupil who could deal more easily with concrete things than ideas. This division of children into three types was not universally accepted. Critics included the London County Council Education Committee.[3] It declared that the three types have emerged as the result of an educational system that was based on social and economic factors rather than on the psychology of the children.

THE 1944 EDUCATION ACT

The Butler Act replaced the old arrangement of elementary and higher education by a system that was to be a continuous process conducted in three successive stages: primary, secondary and further education. It was an expression in legislation of the ideal of secondary education for all and the acceptance of equality of opportunity as a supreme education aim. How this aim

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1. THE NORWOOD REPORT (1943)
2. WHITE PAPER ON EDUCATIONAL RECONSTRUCTION (1943) p. 10
3. Memorandum: agenda December 1943

could be achieved in a tripartite system of education by Local Education Authorities with access to widely differing resources was a matter for further debate.

The Hadow Committee made their recommendations on the accepted belief that it was possible, by means of intelligence tests, to make a fairly accurate assessment of a child's mental capacity by the age of twelve. As a result, the clever could be separated from the average and the average from the dull, either in separate classes or in separate schools. This reliance on intelligence testing was crucial to the eleven-plus selection procedures of the 1944 Education Act.

The eleven-plus examination divided pupils into three types to receive three types of curriculum in three types of school. However valid this selection procedure might prove to be, the proportion of pupils allocated to the three types of schools was affected by the uneven allocation of resources by different Local Education Authorities. The injustice of the system was that a child's career prospects could be determined not by the child's ability, but by where he or she lived in the country. Additionally, the selection procedure made no serious attempt to test the child's suitability for careers. The Technical school merely received the children who had failed to qualify for the Grammar School, without regard to their suitability for technical education. Those who failed to qualify for either - 70% of the country's secondary school population in the post-war years - followed the less academic and more practical curriculum of the secondary Modern school.

In putting forward the teachers' response to the selection procedure, at least the response of teachers in Technical and Modern schools, Healey stated that

> 'The inference was that second-rate intelligence was ideal for technical training and suitable for restoring the technological prosperity of the country in post-war years.
>
> Modern schools would be heavily creamed of pupils with high ability and would consist of pupils who had 'failed'. Selection implies rejection and a school for rejects can never be regarded as a secondary school in the new sense.
>
> The logical alternative was the Multilateral school, and in this the London County Council had given a strong lead by adopting this form of educational provision as a substitute for the eleven-plus procedures.' (1)

HANDICRAFT

The Education Act had a profound influence in the field of Handicraft. It restated the justification for the inclusion of the subject in the curriculum for all children in all secondary schools. It was intended that in the first two years in all types of secondary school, there should be a minimum standard of attainment and training in craftsmanship. There was to be better provision for Handicraft, particularly in the rural schools, and the appointment of Advisers would assist in the organisation of this provision.

The first moves towards obtaining a fully trained specialist Handicraft teaching force were initiated. Before the war, trained teachers and ex-tradesmen were in approximately equal numbers in the total of about 4000 practising teachers. (2) As a result of the Act, teachers qualified through the City and

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1. HEALEY (1944) The Future of Secondary Education
2. R.A. Butler's address to the College of Handicraft (1957)

Guilds of London Institute examinations were given equal status with the trained teachers. By 1960, modifications to regulations would ensure that the last distinction between the College trained teacher and the ex-tradesman would disappear. They would all be trained, qualified teachers - the difference being only the qualification for entry to a College course.

A significant factor in the development of post-war Handicraft was the increase in the teaching of Metalwork. There had been a growing appreciation of the particular attraction this had to boys of lower academic ability. The greater numbers of emergency-trained teachers, artisan-instructors and late entrants to the profession - many from the Services - who were interested in teaching this subject enabled the expansion to take place. A booklet of guidance was offered by the Ministry (1) which outlined the traditional aims of teaching Craft in schools and gave practical advice in many aspects of metalwork teaching. It was unique in that it introduced a new approach to Craft teaching. It claimed that educational benefits would accrue from discussions, planning, solving problems, tackling difficult tasks and in the realisation of the end product. In short, it officially recognised as an important element in education the design-based problem-solving processes whereby the activity of making was an integral part of a series of logical statements.

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1. MINISTRY OF EDUCATION: Metalwork for the Secondary School (1952)

REACTION TO THE ELEVEN PLUS EXAMINATION

The claims of the intelligence testers were questioned in the publication of the Report on Early Leaving in 1954.(1) This stated that of the 20 children in every 100 who were picked for Grammar schools at the age of 11, barely nine reached the normal Grammar school target of five or more passes at the ordinary level of the General Certificate of Education, or an equivalent standard. (2) The Report proved statistically the unreliability of a selection procedure which was basically unjust to many pupils. Fifteen years later, Pedley was still smarting over the inadequacies of the system:

> 'In our present state of ignorance about the human mind and the springs of behaviour it is insufferable arrogance not merely to predict at that early point how a person is likely to develop, but to direct him willy-nilly to one course of development rather than another. The idea that there were two or three types of child, suitable for two or three types of schools, was incredibly crude and naive.'(3)

For many, the answer was to be found in the system of Comprehensive education where selection and competition as a basis for entry were non-existant. One important reservation concerned the size of the schools. At a time when most existing schools catered for fewer than 400 pupils, Comprehensive schools were expected to have 1500 pupils. Comprehensive education appeared to be viable on the grounds of economy and efficiency in purpose-built schools in rural areas. But, as London had shown in the first experiments,

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1. Report of the Central Advisory Council for Education (1954) p 8
2. CROWTHER: Vol. 1, p. 72 reinforced this view: 6 or 7 in every 20 pupils were unsuited to the education to which they were directed
3. PEDLEY (1969) The Comprehensive School, p.23

it could also be a practical solution to socio-educational problems in conurbations. Between 1946 and 1949 eight large Comprehensive schools were created in the capital by amalgamating Senior and Central schools. Between that time and the attempt by the Labour Government in 1965 to introduce a national system of Comprehensive education, over 200 Comprehensive schools were created - eleven of these in Essex.

THE CROWTHER AND NEWSOM REPORTS

During this period of Comprehensive development, two major Reports were issued, both by the Central Advisory Council. The Crowther Report of 1959 dealt mainly with the top half of the ability range in our schools. The Newsom Report of 1963 investigated the education of pupils of average and below average ability.

The Crowther Report was concerned with placing in a sociological background the extent to which able pupils failed to progress as well as they should for reasons of home background and family attitudes. It advocated a programme of education development aimed at ensuring that more boys and girls stayed in full-time education to 18. As a contribution to this, it recommended the raising of the school leaving age to 16 and urged that the extra year should offer new and challenging courses, not simply a continuation of what had gone before.

The Report was critical of the over-specialisation of the Sixth Form curriculum, even though specialisation was accepted as

necessary and desirable. The price for specialisation that was geared to university or professional requirements, was paid lower down the school. Subjects were dropped, or the time spent in studying them was greatly reduced. Crowther considered it bad for 15 year olds, even the able children, to be denied a broadly based education. The necessity of having to choose between options in early years inevitably closed doors and froze into permanent choices what might have been no more than passing inclinations. If some of the pressure could be taken off the timetable,

> 'it would be possible to continue throughout the main school, to give all pupils the opportunity to carry on those practical and aesthetic subjects.' (1)

The Report considered that the raising of the school leaving age to 16 was particularly relevant when the role of practical activities was being discussed. Greater physical competence came to boys in their teens yet they left the secondary schools when the law of increasing returns was beginning to operate. In school workshops they were reaching the adult standards of performance and they saw the relevance of their work to life in the adult world. Their mechanical ability was widespread and they found in the technological subjects the most natural approach to science as a body of knowledge and the method of acquiring it. By cutting off compulsory education at 15, we lost the opportunity to exploit this mechanical interest in the service of scientific understanding.

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1. CROWTHER REPORT. Vol. 1 p. 218

So many pupils lost their intellectual curiosity before they had exhausted their capacity to learn. For these, and for those with limited academic ability, the proposed alternative route of a practical approach to education should make progressively intellectual demands. This alternative route applied as much to the less able boys in the Grammar school as it did to the ablest boys in the secondary Modern school.

> 'After all, they are often very much the same boys, sent to different types of school by the hazard of an examination or by the chance of the district in which they happen to live.' (1)

Crowther suggested that a particular problem of practical subjects lay in their status which, by tradition, was second class. Craftwork required legitimization by those who could change attitudes - the universities, examination boards, employers and society at large. The problem was not eased by the acute shortage of teachers. Enquiries made in 1959 by the Council showed that 400 school workshops were closed because of the lack of teachers.

The Newsom Report on the education of the average and less than average pupils confirmed Crowther's indications of inadequacies of resources in the schools where these pupils were taught. The insistence in the Spens Report that there should be parity of resources for all types of schools was being ignored. Not only was the educational performance of these children held back by social factors, they were being deprived of their share of

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1. ibid, para. 579

resources and the turnover of their teachers was higher than in other types of schools.

The Report adopted as its first and most forceful recommendation the Crowther plea for a longer school life. It then added its own recommendation for a longer school day with the incorporation into the formal curriculum of activities that were undertaken voluntarily in many schools. The work undertaken during this period would need to relate more to adult life, with emphasis on vocational interests. It would also have to be presented in more acceptable terms to pupils and parents and still retain the identity on the timetable so that pupils should know what they were studying. The Report was significant in that it contained an unequivocal statement concerning the need for common components in a balanced curriculum for all pupils up to the age of 16 years in all secondary schools.

> 'If this Report were about all the pupils instead of half, we should still hold that up to the age of sixteen, nobody should go without some practical work, some experience in mathematics and science, and some in humanities. And it ought to be a sizeable share of each, not a concession to idealistic theory which sensible folk need not take too seriously. Up to this point we are rigorists. We would like to prescribe this for all pupils in all secondary schools as an obligation.' (1)

But in dealing with the pupils of average or less than average ability, with their wide range of capacity and of taste, there was no question of a universal fixed curriculum.

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1. THE NEWSOM REPORT (1963) p. 124

Much of the evidence presented to the Council suggested that the average and below average pupils would respond better to work which was more realistic and more practical. This evidence was in sympathy with the views of the Hadow Committee, and others before and since then, that schools should provide opportunities for work that was practical in character and related to living interests. Emphasis was placed on the justification for including Crafts and practical subjects [1] in the school curriculum for up to one third of the school week. This was not only for the value of the activities themselves but for the reason that such a programme would engender a change of attitude that would awaken enthusiasm for learning in young people.

Dealing specifically with Handicraft, the Report stressed the importance of not misleading pupils, and their parents, into thinking that workshop craft activities provided training for a skilled trade. The value of a course was to be judged by how far it constituted a stimulating education, whether or not the pupil eventually took up a related occupation. The further down the ability scale the more important it was for courses to be more broadly based, preferably with a programme embracing several crafts and practical activities.

However well-equipped schools were to provide a realistic and practical education to the average and below average children, they were entirely dependent on the quality and dedication of the teachers for success. Teaching able pupils provided an

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1. Practical subjects were listed as Art and Studio Crafts, Handicraft, Rural Science, Housecraft and Needlework, Physical Education and Music.

intellectual challenge to the teacher and brought quick response from the pupils. Conversely teaching very backward children provided a different sort of challenge but could also lead to a proper source of professional pride. The pupils in the middle, the majority of the pupils in the Report, excited the least professional interest. Too often seemingly rather dull pupils got rather dull teaching with equally dull results. Schools required more teachers whose pattern of qualification cut across the conventional divisions of 'specialist' and 'non-specialist', 'practical' and 'non-practical' subjects. These schools would be capable of a more flexible organisation. They would offer many of their pupils more choice and variety in Crafts and other practical activities and be less at the mercy of staff changes which brought the whole department to a standstill if the one 'specialist' departed.

COMPREHENSIVE REORGANISATION

One year after the Report was published the idea of a national system of comprehensive education was projected to the highest political level and became a major item of Labour Party policy. Comprehensive education would unite the Crowther and Newsom children in one area in one school and give them all equal opportunity and encouragement. There would be no more wrong done to children in the name of the eleven-plus procedures. Educational psychology and mental-testing would give way to the elevation of educational sociology with its preoccupation with the effects of the class structures on education.

Comprehensive secondary schools would serve the entire local community just as the existing comprehensive primary school did. They would be social and cultural centres for all local people with ease of contact between home and school and close collaboration between parents and teachers. As good neighbourhood schools they would require good neighbourhoods. Using the agencies of housing and planning, they would be socially integrated. The problem of good education was not one of education alone.

Eight months after the Labour Government victory in the 1964 General Election, Local Education Authorities were invited to submit plans for the reorganisation of their secondary schools in order to eliminate selection into separate and different types of secondary school at 11.(1) By December 1969, schemes had been approved for 129 out of 163 education authorities and a short Education Bill was introduced to compel all Authorities to reorganise on comprehensive lines. The Conservative success in the General Election of 1970 curtailed further progress of the Bill and the new Minister cancelled Circular 10/65. Instead, local Authorities were allowed more freedom to determine the shape of secondary education in their areas and it was left to the Department of Education to judge each scheme submitted on its merits. (2)

The development of the curriculum that was required as a result of comprehensive reorganisation was affected by the passing of the Sex Discrimination Act in 1975. This allowed equal access by

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1. CIRCULAR 10/65 (1965)
2. CIRCULAR 10/70 (1970

boys and girls to subjects which had previously been available only to boys or girls. In the case of Craft, it brought within the law a process which had been introduced into schools as they became involved in comprehensive reorganisation. Considering the wider aspects of the Act, Gordon and Lawton suggest that

> 'It will be necessary for schools to draw up a rationale of the curriculum or a code of practice, defining some subjects as essential and others as options. Without some kind of consensus on what must be included in any curriculum, it is difficult to see how an individual could be regarded as being deprived of an essential benefit.' (1)

This may be so for schools not included in comprehensive reorganisation, but it is not necessary in co-educational comprehensive schools. The introduction of the carousel (2) ensures that all pupils are given a sampler education in all subjects in the Lower School. The inclusion of subject option blocks ensures that all pupils, as required by the Act, have free access to all subjects in the Upper School. Subtle changes to the composition of option blocks, however, ensure that traditional subjects are taught to either boys or girls and that the numbers of pupils who wish to cross over the traditional boundary are, in the case of Craft subjects, restricted by invoking the provisions of the Health and Safety at Work Act.

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1. GORDON & LAWTON (1978) **ibid. p. 43**

2. See page 103

CRAFT, DESIGN AND TECHNOLOGY

A significant change to the curriculum during the period of comprehensive reorganisation has been the development of a design approach to existing Craft studies [1] and the introduction of the new school subject of Technology. [2] As more Craft Departments have included this in their list of activities, so they have sought a title for their Department which reflects this change. The historical development from Manual Training to Handicraft and then to Technical Studies has now entered a new phase. The blend of the three elements of traditional skill, creativity and the use of modern materials and techniques has been recognised in the subject's title which is now officially Craft, Design and Technology.

COMPREHENSIVE EDUCATION IN ESSEX

By 1970, one-third of all Essex schools were co-educational comprehensive schools; by 1976, two-thirds had been reorganised. In 1982 the last of the 90 proposed comprehensive schools started to function. Each of these schools is included in the sample for this research

SUMMARY

The second half of the 19th century saw the slow progress made through Government intervention towards a national system of education. Grammar schools, with an elitist curriculum served

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1. See page 228
2. See page 195

a minority with a liberal secondary education. Denominational and State schools provided the majority of children with a basic elementary education of Reading, Writing and Arithmetic. The future development of both systems was through a series of Acts and Reports with the content of the curricula being controlled by grant, decree or 'suggestions'. Much of the decision making and control of finances moved from central to local government and the content of the curriculum widened.

The call for secondary education for all eventually resulted in a tripartite system with selection being made at eleven-plus to determine the future educational route of children. The growing objection to the selection procedures became a political issue and, as a result, the existing system of education was largely reorganised on comprehensive lines. Neighbourhood schools were to provide a suitable education with freedom of opportunity for all pupils whatever their abilities.

Within this growth of a national system of secondary education, forms of manual instruction were introduced and developed. It has been convincingly argued over the years that for some pupils the subject has vocational, recreational, remedial and therapeutic values. For all pupils it can make a valuable contribution to a balanced curriculum.

3. THE SCOPE OF THE RESEARCH

This research into the structuring of Craft, Design and Technology was begun in 1978. It concerns the investigation of the distribution of the subject within schools and an assessment of the status accorded to the subject in Essex.

The decision to confine the research to one Local Education Authority was made because it was felt that it would facilitate parallel studies in other Local Education Authorities.[1]

The choice of Essex for the field work was made because of

a) the ease of access to the schools by the researcher,

b) the large number of schools in Essex,

c) the high degree of commitment to comprehensive education by the County, and

d) the possibility of obtaining a total sample of co-educational comprehensive schools.

Table 2 relates the basic educational statistics of Essex to those of England as a whole.

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1. It was envisaged that similar studies could be undertaken by members of the Educational Institute of Design, Craft and Technology.

TABLE 2: SCHOOLS AND SCHOOLS POPULATION OF ENGLAND AND WALES: 1978

	ENGLAND	*ESSEX*	*%*
Pupils in all schools	*8,350,904*	*264,255*	*3.16*
Pupils in all secondary schools	*3,593,505*	*120,782*	*3.36*
Number of secondary schools	*4,110*	*117*(1)	*2.84*
Number of comprehensive schools	*3,077*	*89*(2)	*2.89*
Number of comprehensive pupils	*2,955,788*	*101,808*	*3.44*

Source: STATISTICS OF EDUCATION: Vol.1. 1978. Table 27

The administrative County of Essex, shown in Figure 1, is divided into eight education areas - North West (NW),(3) North East (NE), West (W), Central (C), Basildon and Brentwood (BB), Castle Point and Rochford (CPR), Thurrock (T) and Southend-on-Sea (S). Two boarding schools, taking pupils from throughout the County, are administered from the County Education Office and are unattached (U) to any Area Education Office.

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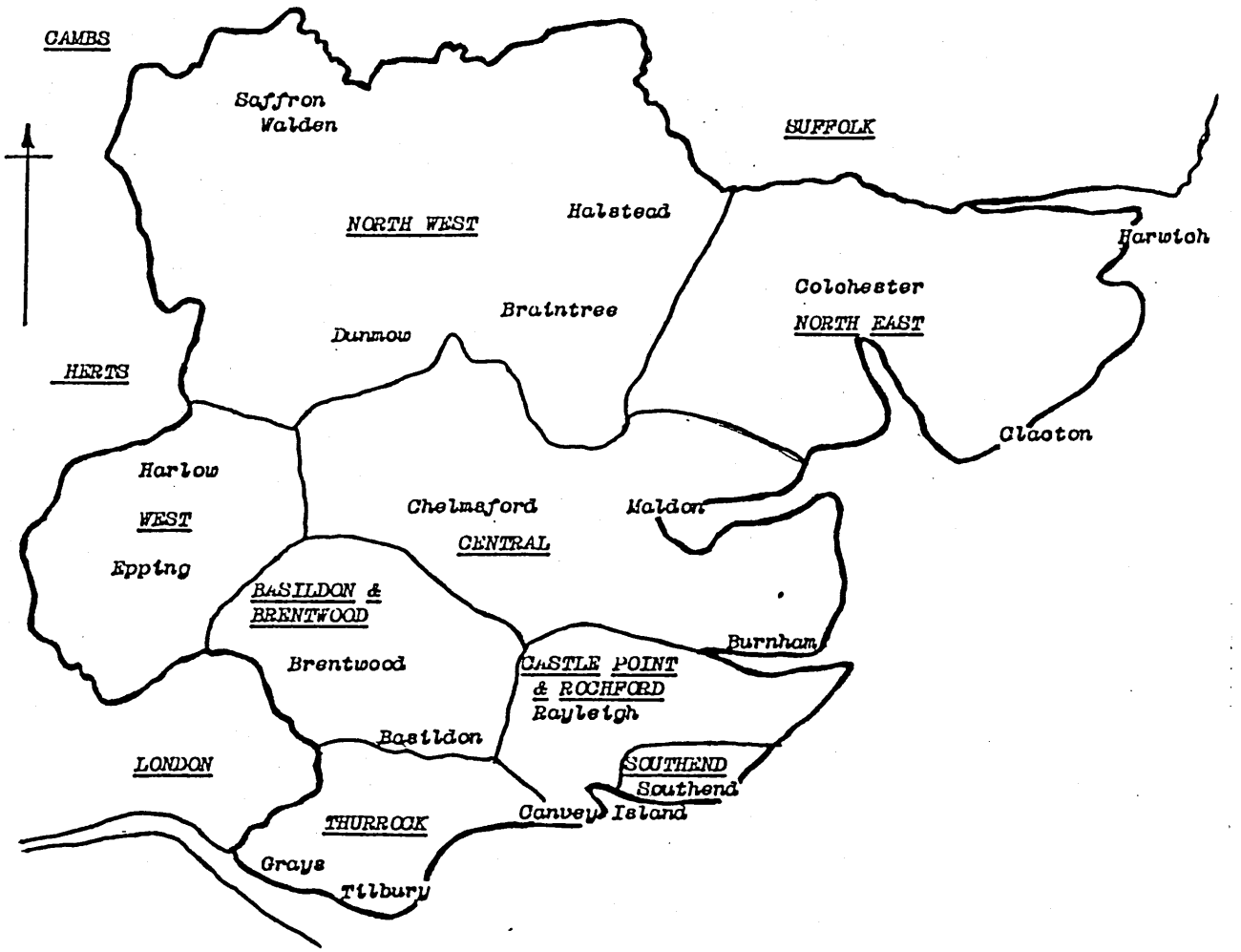
1. Secondary schools receive pupils from 604 primary schools
2. This figure includes two Sixth Form Colleges
3. Abbreviated thus when used in Tables

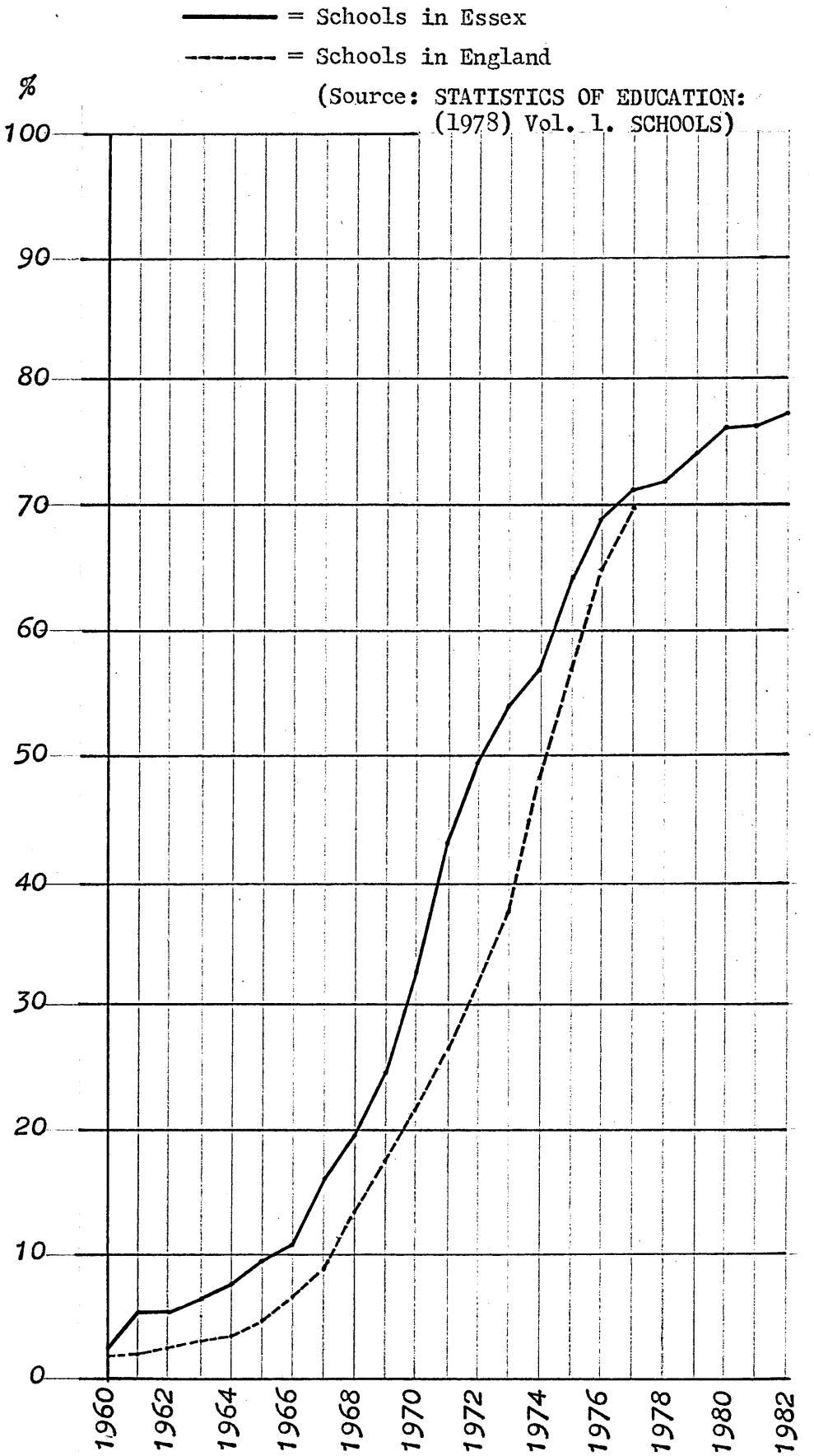
FIGURE 1: THE EDUCATION AREAS WITHIN THE ADMINISTRATIVE COUNTY OF ESSEX



COMPREHENSIVE EDUCATION IN ESSEX

The development of comprehensive education in Essex has kept pace with the national trend. The graph in Table 3 compares this growth in terms of the percentage of the total number of secondary schools offering comprehensive education

TABLE 3 THE COMPARATIVE DEVELOPMENT OF COMPREHENSIVE EDUCATION IN ENGLAND AND ESSEX shown as percentages of all secondary schools



The distribution by Area of 117 secondary schools in Essex is shown in Table 4 and their populations in Table 5. By 1983, 98 (83.76%)of these schools were designated comprehensive in character and of these, 90 were co-educational day schools.[1] 26 (28.88%) of these are in the 11-16 year age range.[2]

THE RESEARCH SAMPLE

The research sample is made up of all 90 co-educational comprehensive day schools in Essex. Their geographical locations are shown in Figure 2. The sample represents 76.92% of the secondary schools in Essex and 84.89% of the secondary school population.

The comprehensive system in Essex includes 21 purpose-built comprehensive schools, while the other schools in the system were formed by the reorganisation of the 49 former secondary Modern schools and the 20 schools from a range of single-type and bi-lateral schools. The complete range is shown in Table 6.[3]

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1. This involvement rises to 94.11% if the statistics relating to the uncharacteristic pattern of education in Southend-on-See Area are omitted.
2. Post 16+ comprehensive education is available in Sixth Form Colleges for pupils in all schools in the two Areas of Thurrock and Castle Point and Rochford.
3. Four schools were added to the comprehensive system in Essex during the period of research. These were one mixed-sex Technical School, one boys' Grammar school and two purpose-built comprehensive schools.

TABLE 4: NUMBER, CHARACTER AND STATUS OF SECONDARY SCHOOLS IN ESSEX: 1983

TYPE OF SCHOOL	EDUCATION AREA									TOTALS	
	NW	NE	W	C	BB	CPR	T	S	U		
COMPREHENSIVE:											98
Co-Ed. County	11	15	11	10	15	11	9	2		84	
V/C			1							1	
V/A		1	2	1	1					5	
Boarding									1	1	
Boys County			1							1	
Boarding									1	1	
V/C	1									1	
V/A							1			1	
Girls County			1							1	
V/A					1		1			2	
BI-LATERAL:											2
Boys V/A								1		1	
Girls V/A								1		1	
GRAMMAR:											8
Boys County								2		2	
V/C		1		1						2	
Girls County		1		1				2		4	
MODERN:											7
Co-Ed. County								1		1	
Boys County								3		3	
Girls County								3		3	
VIth FORM:											2
Co-Ed. County						1				1	
V/C							1			1	
TOTALS	12	18	16	13	17	12	12	15	2	117	

SOURCE: Secondary Education in Essex: Essex County Council Education Department. (1983)

TABLE 5: NUMBERS ON ROLL IN ALL ESSEX SECONDARY SCHOOLS: JANUARY 1982

TYPE OF SCHOOL	EDUCATION AREA									TOTAL	%	
	N W	N E	W	C	B B	CPR	T	S	U			
COMPREHENSIVE												
Co-Ed : County	11828	17992	12194	12940	20345	13184	9003	2513		99999	80.86	
Co-Ed : Boarding									345	345	0.27	
Co-Ed : V/C			1264							1264	1.02	
Co-Ed : V/A		680	1317	927	791					3715	3.00	
Boys : County			754							754	0.60	
Boys : Boarding									199	199	0.16	
Boys : V/C	748									748	0.60	
Boys : V/A							337			337	0.27	
Girls : County			700							700	0.56	
Girls : V/A					785		540			1325	1.07	
												88.41
BI-LATERAL												
Boys : V/A								566		566	0.45	
Girls : V/A								802		802	0.64	
												1.09
GRAMMAR												
Boys : County								1647		1647	1.33	
Boys : V/C		662		677						1339	1.08	
Girls : County		627		638				1648		2913	2.35	
												4.76
MODERN												
Co-Ed : County								1044		1044	0.84	
Boys : County								1992		1992	1.61	
Girls : County								2018		2018	1.63	
												4.08
VITH. FORM												
Co-Ed : County						1085				1085	0.87	
Co-Ed : V/C							870			870	0.70	
												1.57
TOTALS	12576	19961	16229	15182	21921	14269	10750	12230	544	123662	100.00	100.00

FIGURE 2: LOCATION OF THE 90 CO-EDUCATIONAL COMPREHENSIVE SCHOOLS IN ESSEX: 1983

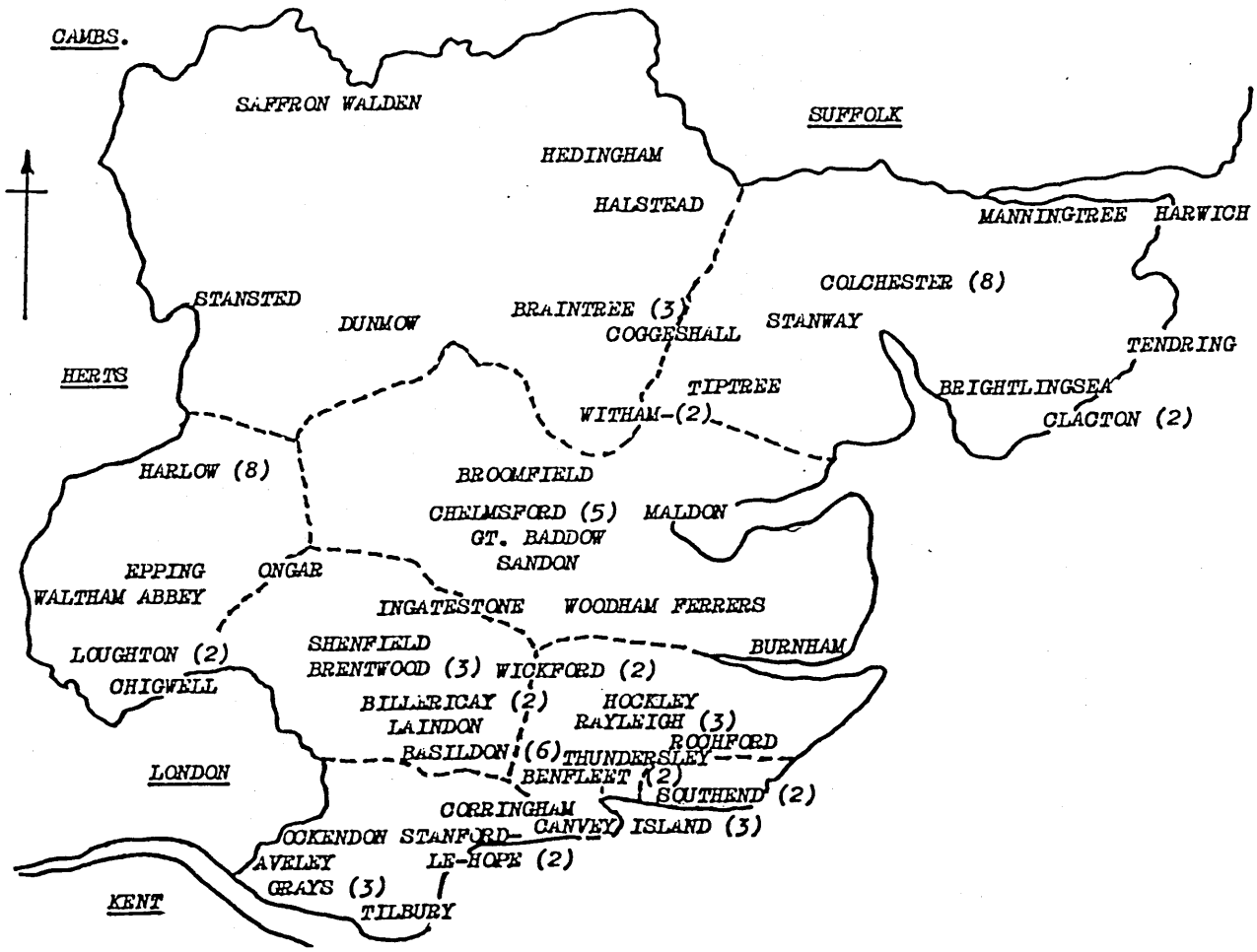

TABLE 6: ORIGINS OF SCHOOLS PRIOR TO COMPREHENSIVE RE-ORGANISATION

TYPE OF SCHOOL	No.	%
Purpose-built comprehensive	21	23.33
Grammar	3	3.33
High	1	1.11
Technical	4	4.44
Modern	49	54.44
VIth Form College	1	1.11
Grammar/Modern Bi-lateral	5	5.55
Grammar/Technical Bi-lateral	1	1.11
High/Modern Bi-lateral	2	2.22
Technical/Modern Bi-lateral	3	3.33
TOTAL	90	100 %

The high degree of commitment to comprehensive education by the County is not reflected in the names adopted by schools on their entry into the comprehensive system. 11 (12.22%) schools acknowledged the comprehensive nature of education in their titles,[1] 63 (70.0%) retained only geographic or personalised titles and 16 (17.77%) included the obsolete term 'high school' in their titles. Six of these schools had origins in Grammar or Technical education, 8 were re-organised Secondary Modern schools and two were purpose-built comprehensive schools. Table 7 shows the distribution of these by Education Areas throughout the County.

TABLE 7: NOMENCLATURE OF ESSEX COMPREHENSIVE SCHOOLS

	EDUCATION AREA									
SCHOOL NAME	NW	NE	W	C	BB	CHR	T	S	TOTAL	%
COMPREHENSIVE		1	9	1					11	12.22
HIGH	4	4	2	3	1			2	16	17.77
GEOGRAPHIC OR PERSONALISED	7	11	3	7	15	11	9		63	68.69
TOTAL	11	16	14	11	16	11	9	2	90	100 %

THE NATURE AND CONDUCT OF THE SURVEY

The status and distribution of a school subject can be affected by such considerations as

a) the allocation of resources to that subject,

b) the contribution the subject makes to the provision of a balanced education for all boys and girls,

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1. Nine of these are in Harlow New Town.

c) the value of the courses offered, and

d) the teacher's perception of his or her role and the role of the subject.

The status and distribution of Craft in Essex comprehensive schools was researched, using these four broad areas for investigation, by means of interviews conducted during visits to schools, information supplied in returned questionnaires and the study of documents issued by the schools.

In considering the alternative research strategies,[1] the method of obtaining Craft and curricula data solely by means of postal questionnaires was rejected in favour of personal research visits and the distribution of questionnaires during these visits. It was judged that, as the private research would not have the authority of an official investigation,[2] success in obtaining data from teachers would be largely dependent on

a) the preparatory publicity exercises undertaken by the Heads of Craft Departments prior to the visits, and

b) the rapport between the researcher - a practising Craft teacher - and his Craft colleagues in the County during the visits.[3]

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1. The Open University Third Level Course: Methods of Educational Enquiry and EVANS, K.M. (1968) Planning Small-scale Research were both invaluable in this preparatory stage.

2. DEPARTMENT OF EDUCATION AND SCIENCE (1979) Aspects of Secondary Education in England is one such enquiry.

3. The few instances where some initial opposition to the research was encountered were directly linked to the Head of Craft Department failing to inform Craft teachers of the impending visit and the purpose of the research.

There were practical limits to what could be attempted in part-time research and the severest constraint was that of time. It would not be possible for more than one research visit to be made to each school and, where these were made during school time, they were planned to last for one non-teaching timetable period of the Head of Department - approximately 45 minutes. The imposition of private research visits into the routine of busy schools and the request for the time of over 500 Headteachers, Directors of Studies, Heads of Craft Departments and Craft teachers called for the observance of correct procedures to ensure that the privilege of research in the schools was not abused.

Formal approval for research to be conducted in the schools was sought and obtained from the Chief Education Officer and each of the Area Education Officers. An outline of the proposed research was sent to each Headteacher together with requests for permission to

a) include the school in the programme of research,

b) visit the Craft Department and involve the Head of Department and Craft teachers in the research if they were willing to participate,

c) hold a short interview with the Headteacher to discuss curriculum matters.(1)

When permission had been received from individual Headteachers, details of the proposed research were sent to each Head of Craft

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1. In practice, only ten Headteachers were available for interview at the time of the research visit. Curriculum matters were discussed with the Deputy Headteacher, the Director of Studies or in further correspondence.

Department with a request for permission to visit the Department for the purpose of

a) interviewing the Head of Department,

b) meeting Craft teachers,

c) distributing Head of Department and Craft teacher questionnaires, and

d) touring the workshop complex to make a study of working conditions.

All Heads of Craft Departments agreed to the research visits and the date and time of these were arranged to suit the convenience of the Heads of Department. There was no pre-arranged pattern of visiting. Informal open-ended discussions with the Heads of Department and Craft teachers frequently caused the visits to be extended for up to two hours. Where schools were on split sites, visits extended to a complete morning or afternoon session in some cases.

By common consent, the interview commenced with the Head of Department providing general background information concerning the school, the catchment area and the general timetable information. He was then asked to provide details of compulsory and optional Craft activities throughout the school, the involvement of girls in Craft activities, courses offered and the administration of the Craft Department.(1)

Following any general open-ended discussion, the workshop complex

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1. See appendix 1.

was visited, contact was made with teachers and questionnaires were distributed to Heads of Department and Craft teachers. Many teachers initiated further discussions, particularly when they realised that the research was being conducted privately by a practising Craft teacher.

The Head of Department questionnaire [1] was designed to elicit information concerning

a) names given to the Department and subjects,
b) patterns of compulsory and optional Craft throughout the school,
c) the involvement of girls in Craft,
d) the integration of Craft with other subjects,
e) the compilation of the syllabuses,
f) courses offered by the Department,
g) the provision of remedial Craftwork,
h) the use of new materials and processes,
i) extra-curricular activities,
j) comparisons between Craft courses before and after comprehensive reorganisation,
k) the provision of resources, and
l) the Head of Department's assessment of the status of the Department and the subjects taught.

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1. See appendix 2.

The Craft Teacher questionnaire [1] was designed to obtain information concerning

a) the teacher's route into teaching,

b) Craft and non-Craft responsibilities of the teacher,

c) the salary scale of the teacher,

d) the extent of the teacher's workload,

e) the contribution the teacher made to the compilation of the syllabus,

f) comparisons between Craft courses before and after comprehensive reorganisation,

g) extra-curricular activities,

h) the adequacy of workshop facilities,

i) further qualifications obtained by the teacher,

j) the aims of the teacher for his Craft teaching,

k) the teacher's assessment of the status of the Department and the subjects taught,

l) the teacher's assessment of the value of Craft in a technological society,

m) the changes to the teacher's Craft idealogy,

n) discipline in the workshops,

o) the numbers in workshop groups, and

p) evidence of the teacher studying contemporary curriculum development projects.

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1. See appendix 3

At the conclusion of the visit to the Craft Department, requests were made for copies of

a) Craft teacher timetables,

b) School timetables,

c) curriculum analysis statistics,

d) options information, and

e) school prospectuses.

A feasibility and pilot study was carried out in two schools in the autumn term of 1978. The proposed procedures were tested and Heads of Departments and Craft teachers were asked to comment on the contents of the questionnaires before they completed them. As a result of suggestions made and further supporting evidence from other schools, two questions were deleted from the questionnaires. That relating to capitation was removed because the information was not available to teachers within the schools and the request for examination results was deleted because this information was not, at that time available for publication.(1) It also became apparent during the course of the earlier research visits that the proposed plan to involve 4th, 5th and 6th form pupils and their parents in a study concerning option choices would, because of extreme pressure of time, have to be withdrawn from the research programme. In 1979 - 1980, 26 schools were visited; in 1980 - 1981, 8 schools were visited and in 1981 - 1982,

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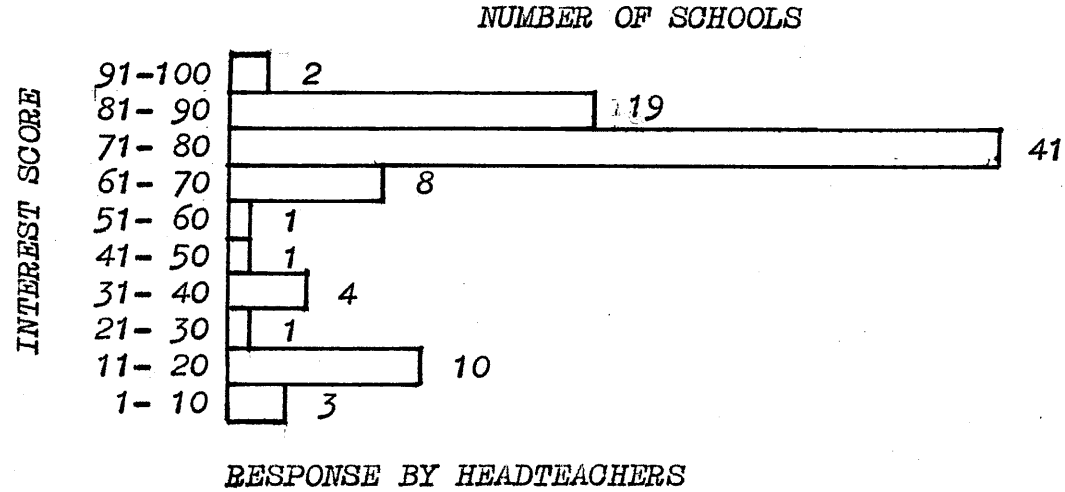
1. Three years after the passing of the Education (School Information) Regulations in 1981, ten per cent of Headteachers in Essex still place restrictions on the publication of this information.

50 schools were visited. The four new entrants to comprehensive education in Essex were visited at the beginning of the 1982 - 1983 school year. Two-thirds of all visits took place during school time, the remainder, usually, immediately after school had finished for the day.

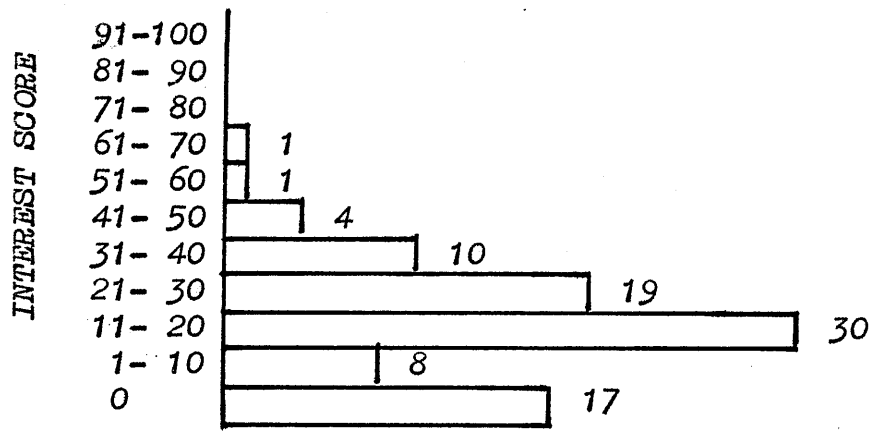
As this was the first private research into Craft, Design and Technology in Essex comprehensive schools, an attempt was made to determine how willing and able schools were to assist an independent enquirer to undertake a project of this nature. A score was allocated to the Headteacher according to a subjective assessment of expressed interest in the research. Objective scoring was based on the provision of school documents by Directors of Studies and the number of questionnaires returned by members of Craft Departments. The distribution of scores for all responses for the 90 schools is shown in Tables 8 and 9. There is no significant difference between the average scores for schools of different origins: 158 for the 20 ex-Grammar/Technical schools, 159 for the 21 purpose built Comprehensive schools and 161 for the 49 ex-Secondary Modern Schools.

Headteachers were generally supportive and gave encouragement in their letters of agreement that their school should be included in the programme of research visits. Directors of Studies were constrained in their responses, possibly because of the climate of secrecy which surrounded curriculum statistics. There is an apparent dichotomy between the high interest shown and support given during the research visits and the poor response of some

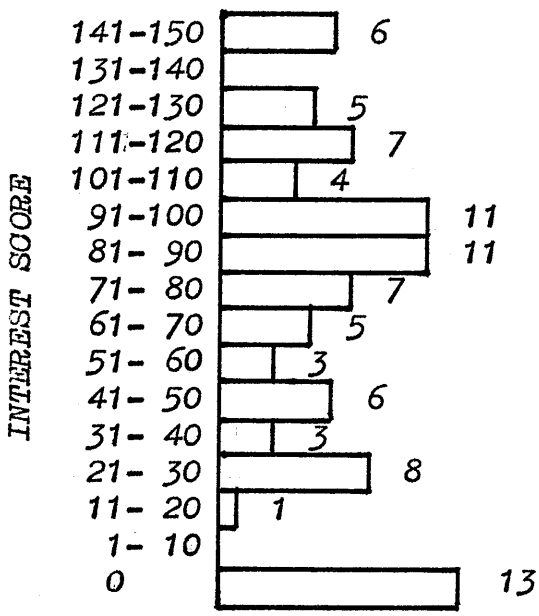
TABLE 8: COMPARISON OF INTEREST SCORES FOR HEADTEACHERS, DIRECTORS OF STUDIES AND CRAFT DEPARTMENTS



RESPONSE BY HEADTEACHERS

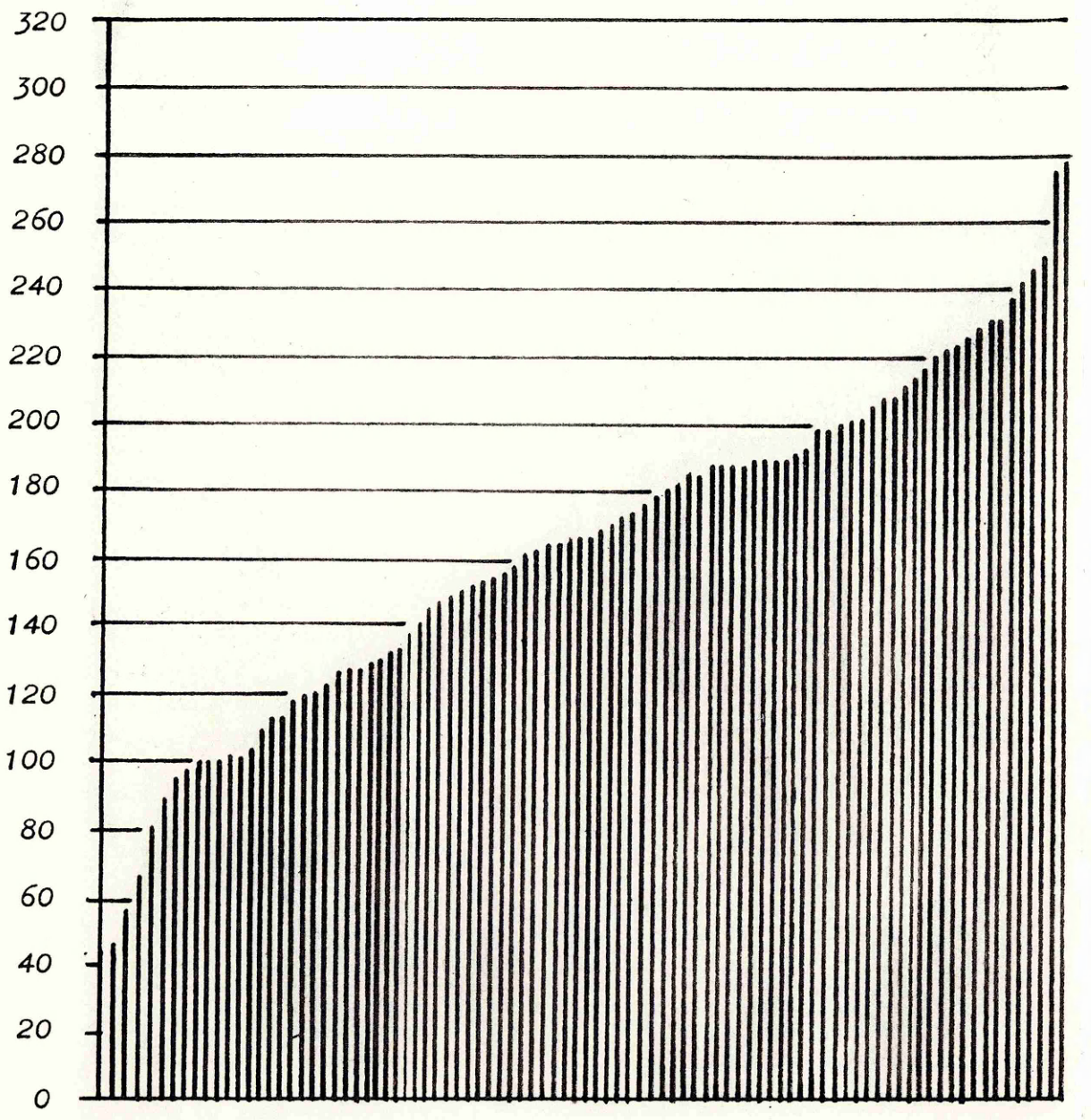


RESPONSE BY DIRECTORS OF STUDIES



RESPONSE BY CRAFT DEPARTMENT

TABLE 9: TOTAL INTEREST SCORES FOR HEADTEACHERS, DIRECTORS OF STUDIES AND CRAFT DEPARTMENTS. SAMPLE = 90 SCHOOLS



schools in the returning of questionnaires - 13 schools failed to return any - even though two reminders were sent to the Heads of Craft Departments. Teachers were not asked to complete the questionnaire during the research visits but provision was made for them to return them under confidential cover. There appears

to be no optimum time during the activities of the Comprehensive school when the presentation of a questionnaire will ensure that time will be available for its completion. The proliferation of administrative and pastoral tasks and after-school meetings encroach more and more into the Comprehensive teacher's time.

SUMMARY

Within the final stages of the programme of comprehensive reorganisation in Essex, research into the distribution and status of Craft, Design and Technology has been conducted in 90 co-educational comprehensive schools by a practising Craft teacher.

Under the broad headings of the allocation of resources, the balanced curriculum, the values of courses and the teacher's perception of his role, the research was conducted by means of interviews, discussions, questionnaires and a study of curriculum documents.

4. THE DISTRIBUTION OF CRAFT TO FIRST YEAR PUPILS

CLASSIFICATION OF INTAKE PUPILS

The status of any school subject can be assessed by the allocation of curriculum time to that subject. Curriculum time can be allocated unequally to teaching groups that have been formed according to varying criteria of educational ability.

The basic organisational unit in secondary education is commonly the class of approximately thirty pupils and this class is invariably a basic educational unit as well. The passage of a child through the schools is associated with the system the school uses to place intake pupils into teaching groups. Two systems are in general use and each will last for at least three years in the school. Each school must decide which of these two systems is most likely to lead to the full development and progress of the individual child.

Classes can consist of randomly-selected pupils of widely varying education abilities and of a good social mix. Teachers of such classes are more likely to rely on methods which require individual teaching and learning. The curriculum is common to all classes and the allocation of time for various subjects is equal to all groups. Alternatively, classes can consist of pupils who have been assessed for their general ability in Mathematics and English, frequently with reference to reports from primary schools. Pupils in this system are simply classified as being in an

educational ability stream that is designated A, B, C, and so on. Teachers follow the more orthodox practice of teaching the whole class about the same thing and carrying the work on at the same pace for everyone. The curriculum may vary between streams and the allocation of time for various subjects will not always be equal. A popular extension to streaming that is used mainly in larger schools is to divide the pupils of one year into bands or populations of broad ability. Bands are then streamed into classes that are designated, for example, A1, A2, B1, B2, B3, B4, C1, C2, with this last class being for remedial pupils.

In all, 53 Essex comprehensive schools (58%) adopt the principle of mixed ability classes in the first year. Of these, 40 have some system of block timetabling of groups of classes for core academic subjects. These schools then classify pupils into streamed sets according to their abilities in individual subjects. A total of 34 schools in this group, together with 6 schools where pupils are not set, withdraw remedial pupils before the reclassification stage. These pupils can then have the opportunity to work in small groups with teachers of remedial core subjects - often at the expense of larger numbers in non-remedial classes. The distribution of schools according to their size and intake procedures is shown in Table 10.

A total of 77 (85.55%) schools, composed of 40 mixed ability and 37 streamed schools, segregate pupils by ability in subjects that present teachers with the greatest difficulty when taught in mixed ability groups, i.e. Mathematics and English.

TABLE 10: ALLOCATION OF INTAKE PUPILS TO CLASSES

	SIZE OF SCHOOL BY FORM ENTRY											
	4	5	6	7	8	9	10	11	12	13	14	TOTAL
MIXED ABILITY SCHOOLS	2	4	8	12	14	4	7	1	1			53
STREAMED SCHOOLS		2	6	9	8	2	6	2	1		1	37
TOTALS	2	6	14	21	22	6	13	3	2		1	90

In common with other Departments involved in the teaching of practical subjects, Craft Departments in Essex comprehensive schools teach first year pupils in the original class groups and make no attempt to further divide groups of pupils into ability sets. Indeed, the system of block timetabling often enables pupils from streamed classes to mix in random groups as they pursue a rotation of practical subjects in a carousel.(1) All but one Craft Department continues this policy for the next two years. The exception streams second and third year pupils into ability sets according to setting in Mathematics.

COMPREHENSIVE EDUCATION AND EQUALITY OF OPPORTUNITY

The hope of those in favour of comprehensive education was that the abolition of the 11+ examination would remove the stamp of failure from the majority of pupils coming into secondary education. Such a view is stated with clarity by the Department

1. See page 103 for definition

of Education and Science:

> 'a school is classified as comprehensive when its admission arrangements are without reference to ability and aptitude.' (1)

It could be argued that streaming and banding pupils negates this advantage.

Neither the purpose-built comprehensive schools nor those formed by the reorganisation of existing schools show an outright preference for either mixed ability or streamed classes. However, as Table 11 shows, there is a marked preference for mixed ability groups in the purpose-built Comprehensives and those schools with Grammar and Technical origins and a more equitable division into mixed-ability and streamed or banded groups in schools that were Secondary Modern before their reorganisation.

TABLE 11: ORIGINS OF SCHOOLS RELATED TO INITIAL CLASSIFICATION OF FIRST YEAR PUPILS

ORIGINAL SCHOOL	No.	% of mixed ability	% of total sample	No.	% of banded/ stream.	total sample
COMPREHENSIVE	14	26.41	15.55	7	18.91	7.77
MODERN	26	49.05	28.88	23	62.16	25.55
GRAMMAR/TECH.	13	24.52	14.44	7	18.91	7.77
TOTAL	53	100 %	58.87	37	100 %	41.09

1. DEPARTMENT OF EDUCATION AND SCIENCE (1978) Statistics of Education: Explanatory Note No. 7.

TEACHING TIME

Having been assigned to schools where the initial classification of pupils can have a profound effect on school careers, new entrants will be taught in one of 23 teaching patterns that can offer up to 25% more or less instruction than they would receive in a neighbouring school. Of the 90 schools in the sample 88 (97.77%) adopt a timetable that is based on a cycle of five days, 1 uses a cycle of 6 days and 1 a cycle of 7 days. Individual teaching periods range from 4 to 11 per day with the length of teaching periods ranging from 30 to 75 minutes. Two schools have unequal lengths of school day in the cycle and 9 schools have teaching periods of varying length during the school day. The result in terms of actual teaching time is a variation of 245 to 330 minutes per day which translates into a variation of 775 to 1045 teaching hours per year - or a difference of 25.83%.

TABLE 12: TEACHING HOURS PER DAY

Hours per day	No. of schools	% of sample
4 - 4¼	5	5.55
4¼ - 4½	1	1.11
4½ - 4¾	62	68.88
4¾ - 5	16	17.77
5 - 5¼		
5¼ - 5½	6	6.66
TOTAL	90	100 %

Although Table 12 shows the degree of variation in the teaching hours, there is uniformity in 59 (65.55%) schools where the time-table is based on a five day cycle with 8 periods per day and 35 minutes for each teaching period. This gives a total teaching time of 887 hours per year.

EQUAL PROVISION OF RESOURCES

Limitations of resources restrict the distribution of a subject throughout the school and thereby reduce the opportunity of all pupils to take part in its study. Five such limitations have been identified as being useful for analysis and these are listed, with the implications they seem, a priori, to have for craft education.

a) Withdrawal of the subject from the curriculum

The decision to withdraw the study of any established traditional subject from first year pupils can have a lasting effect on the child's school career in the following ways:

a) it breaks the continuity of work done in the primary school,
b) it denies the child access to the influence and ethos of the subject during an impressionable and usually enthusiastic year in the child's development.
c) it delays the time when the child can make use of the accepted body of knowledge that is associated with the subject, and
d) it reduces the time the secondary school has to impart this knowledge.

In the case of practical subjects, withdrawal can additionally

a) inhibit the logical development of skills, and

b) reduce advantages attributed to education through the use of materials.

Like all practical experiences, education through the use of materials is particularly relevant to those pupils who have difficulty in learning in the classroom, for it is often easier for them to make the bridge between school and non-school in practical subjects than in others.(1) The experiences in the school workshops can be made the occasion of much general education and the end product can give personal satisfaction.(2)

Four schools make no provision for Craft education for first year pupils but three of these report that this decision is based solely on the shortage of suitably trained teachers. Using the most recent estimates (3) this decision means that 800 boys and girls will not be offered Craft at all in their first year in their comprehensive school. One of these schools is a former Secondary Modern, one a purpose-built comprehensive, one an amalgamation of Modern and High and one a former Technical school.

b) Allocation of time

Pupils in streamed classes can have different allocations of time for particular subjects. This introduces into the first year a

1. THE NEWSOM REPORT (1963) p. 114
2. ibid. p.133
3. SECONDARY EDUCATION IN ESSEX - 1983. Essex County Council. First year admissions for September 1983.

process of specialisation which the majority of schools attempt to leave as late as possible in the school curriculum. As with the withdrawal of the subject from the curriculum, any reduction of time effectively impedes future study of the subject. This will have a direct influence on the child's decision when choices have to be made at the end of the third year for the study of subjects in the pre-examination years.

One school with a streamed intake reduces Craft time by withdrawing top stream first year pupils so that they may study a second language.

c) Mandatory or optional study

The secondary school curriculum presents the new entrant with a more compartmentalised form of education than was evident in the primary school. This tends to be perpetuated by the system of building into the structure of secondary education the functions of Heads of Departments. The system has grown apace with the establishment and growth of comprehensive schools and the increasing numbers on the roll.

Heads of Departments, and particularly those dealing with minority and low status subjects, make bids for a fair share of the allocation of curriculum time in which to teach the foundation courses in the first three years and the examination courses in the fourth and fifth years. Success will depend on opposing bids from other Heads of Department and on the Headteacher's conception

of the value of the subjects taught by the various Departments. Lack of time, both for foundation and examination courses, is likely to reduce chances of examination success and all Heads of Departments naturally see their subjects as being worthy of core status rather than relegation to an option in the first three years.

Of the 86 schools offering Craft to first year pupils, 3 schools require pupils to select subjects from a group involving more than one Department. This decision can mean that Craft is not taken at all in the first year by these pupils. One of these schools asks pupils to make a selection before they join the school, while they are still in the primary schools.

d) Equal opportunities for boys and girls

Whether there are equal opportunities for boys and girls to take particular subjects is largely dependent on the powerful arguments, prejudices and attitudes of teachers, parents and pupils. The outcome is that not all subjects are always available to all boys and girls throughout their school career.

Table 13 shows the availability of Craft as a compulsory core or option subject to first year pupils in the 90 comprehensive schools in the sample. Craft is offered to boys and girls equally in 61 schools as a core subject for varying lengths of time during the first year. The remainder either counsel girls

TABLE 13: AVAILABILITY OF CRAFT TO FIRST YEAR PUPILS

AVAILABILITY TO BOYS	No. of SCHOOLS	%	No. of PUPILS	%
NO CRAFT	4	4.44	405	4.06
CORE: BOYS ONLY	18	20.00	2232	22.41
CORE EQUAL TO GIRLS	62	68.88	6569	65.97
CORE MORE THAN GIRLS	1	1.11	75	0.75
OPTION ONLY	5	5.55	675	6.77
TOTAL	90	100 %	9956	100 %
AVAILABILITY TO GIRLS				
NO CRAFT	23	25.55	2757	27.69
CORE EQUAL TO BOYS	62	68.88	6569	65.97
CORE LESS THAN BOYS	1	1.11	75	0.75
OPTION ONLY	4	4.44	555	5.57
TOTAL	90	100 %	9956	100 %

away from the subject or limit Craft experience to an option list that includes Domestic Science subjects. Few girls opt for Craft under these circumstances and a group of more than 5 girls from an entire year taking Craft would be an exception in the majority of these schools. Using the 1983 estimates for the 86 schools having Craft in the first year curriculum, 2352 girls would have been excluded and a further 555 girls effectively discouraged from taking the subject - a total of 29.19% of all first year girls.

e) Equal Opportunities for Subjects

Subjects having a place on the timetable in their own right are those from high status academic Departments, together with the mandatory subjects offered by the Physical Education Department. The amount of time allocated to individual subjects is an indication of the status accorded them.

THE INTER-DEPARTMENTAL CAROUSEL

To satisfy the demand that all pupils should have some experience in non-academic subjects, many schools have sought to link more than one Department to provide a carousel of subjects. By this method, pupils sample more than one subject during a specific timetable slot and over a set period of time. The number of subjects taught in the carousel divided into the total amount of time allocated to the timetable slot is a measure of the status accorded to individual subjects.

Of the 86 schools offering some form of Craft to first year pupils, 61 (70.93%) make use of this device by amalgamating Craft subjects with those from other Departments. Table 14 shows the distribution of these schools into those providing core or optional Craft and then into those with mixed-ability or streamed teaching groups. The wide acceptance of the sampling system for boys and girls in both mixed-ability and streamed teaching groups is evident. Conversely 18 of the 25 schools not using the carousel restrict Craft to boys only. This close association is

TABLE 14: THE USE OF THE CAROUSEL FOR FIRST YEAR PUPILS

SAMPLE = 86 SCHOOLS

AVAILABILITY AS CORE OR OPTION		*CAROUSEL*		*NON-CAROUSEL*	
		No.	*%*	*No.*	*%*
CORE:					
BOYS ONLY	*- MIXED ABILITY*			*7*	*8.13*
	- STREAMED			*11*	*12.79*
BOYS & GIRLS	*- MIXED ABILITY*	*38*	*44.18*	*4*	*4.65*
	- STREAMED	*19*	*22.09*	*2*	*2.32*
OPTION:					
BOYS ONLY	*- STREAMED*	*1*	*1.16*		
BOYS & GIRLS	*- MIXED ABILITY*	*1*	*1.16*	*1*	*1.16*
	- STREAMED	*2*	*2.32*		
TOTAL:		*61*	*70.91*	*25*	*29.05*

to be expected since these schools would also restrict Domestic Science subjects to girls and, therefore, would not be attracted to the use of the carousel.

Altogether 61 schools using the inter-departmental carousel for core and optional practical subjects link with the Domestic Science Departments. In addition, 30 of these link with Art Departments, 6 of these with Drama Departments, 3 of these with Music Departments and one school with the Rural Science Department. There are 8 schools which extend the carousel to include pupils in the second year and 2 schools continue with its use throughout the third year. As a result of inter-departmental co-operation, the 61 schools produce 22 carousels of varying degrees of complexity. In 21 schools

the composition of the carousel is restricted to a simple combination of Woodwork, Metalwork, Cookery and Needlework. The use and composition of the inter-Departmental carousels in schools is shown in Table 15 together with indications that mixed ability groups are more likely to be involved in carousels of greater complexity.

TABLE 15: THE USE AND COMPOSITION OF THE INTER-DEPARTMENTAL CAROUSEL

SAMPLE = 86 SCHOOLS DEPARTMENTS	MIXED ABILITY	STREAMED	TOTAL
CRAFT ONLY	11	14	25
CRAFT + DOMESTIC SCIENCE	16	15	31
+ ART	17	7	24
+ DRAMA	3	0	3
+ MUSIC	2	0	2
+ RURAL SCIENCE	1	0	1
TOTAL	50	36	86

When the disposition of the schools is considered, see Table 16, it will be seen that there is a four-way link between the use of the carousel, the inclusion of Craft in the compulsory core, equal opportunities for boys and girls to take Craft and the Secondary Modern origins of the largest group of schools. The belief that there should be no early specialisation is inherent in the sampling method of the carousel system. This is very much in keeping with the post-war ideals of the early Secondary Modern schools where education was directed towards making a general

TABLE 16: SCATTER DIAGRAM SHOWING DISPOSITION OF SCHOOLS IN RELATION TO THE USE OF THE CAROUSEL AND OPPORTUNITY TO STUDY CRAFT : FIRST YEAR

SAMPLE = 86 SCHOOLS		CAROUSEL					NON - CAROUSEL				
	ORIGIN OF SCHOOL =	TECH/ GRAMMAR	SEC. MODERN	P.B. COMP.	TOTAL	%	TECH/ GRAMMAR	SEC. MODERN	P.B. COMP.	TOTAL	%
CORE	BOYS ONLY: MIXED ABILITY						*** 3	*** 3	* 1	7	8.13
	BOYS ONLY: STREAMED						** 2	******* 6	*** 3	11	12.79
	BOYS AND GIRLS: MIXED ABILITY	******* *** 9	******* ******* ******* *** 21	******* ** 8	38	44.18		* 1	*** 3	4	4.65
	BOYS AND GIRLS: STREAMED	** 2	******* ******* * 13	***** 4	19	22.00	* 1	* 1		2	2.32
OPTION	BOYS ONLY: STREAMED		* 1		1	1.16					
	BOYS AND GIRLS MIXED ABILITY			* 1	1	1.16		* 1		1	1.16
	BOYS AND GIRLS: STREAMED	* 1	* 1		2	2.32					
	TOTAL	12	36	13	61	70.82	6	12	7	25	29.05

contribution to the full life of the pupil rather than to specific success in examinations.(1)

THE CRAFT CAROUSEL

All Craft Departments offer a wide range of subjects to pupils during the five years leading to the Certificate of Secondary Education and the General Certificate of Education. The majority of schools attempt to give first year pupils a balanced diet of experience in the use of materials by employing a Craft carousel. This can be highly complex where inter-departmental carousels are in operation, with the greater number of subjects being offered causing the greater dilution of time that is available for the study of individual subjects.

SUBJECTS TAUGHT IN CRAFT DEPARTMENTS

Table 17 shows the range of subjects taught in Craft Departments to first year pupils. There are three schools which restrict workshop Crafts to one subject, 58 which offer 2 subjects, 24 provide 3 subjects and one school which has four subjects in its Craft carousel. The traditional subjects of Woodwork and Metalwork account for 85.64% of those offered by the 86 Craft Departments. The equally traditional Technical Drawing, usually associated with Craft studies in later years, is taken by pupils in the first year in 15 schools. Many schools use plastics as an occasional modern addition to the traditional materials, wood and metal, and 8 schools teach a foundation course in plastics

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1. NEWSOM, J. (1950) The Child at School, Chapter VI

TABLE 17: SUBJECTS TAUGHT IN CRAFT DEPARTMENTS TO FIRST YEAR PUPILS

SAMPLE = 86 SCHOOLS							INTER - DEPARTMENTAL				
							CAROUSEL		NON-CAROUSEL		
SUBJECTS TAUGHT							MIXED-ABILITY	STREAM.	MIXED-ABILITY	STREAM.	TOTAL
WK								1	1	1	3
WK	MK						26	14	7	9	56
WK	MK	TD					7	4	1	2	14
WK	MK		PL	DE					1		1
WK	MK		PL				3	1	1	1	6
WK	MK				LC		2				2
WK	MK					TE		1			1
WK	MK			DE					1		1
WK			PL				1				1
	MK	TD						1			1
85	28	15	8	2	2	1	39	22	12	13	86

WK = Woodwork, MK = Metalwork, TD = Technical Drawing,
PL = Plastics, DE = Design, LC = Light Crafts, TE = Technology.

to first year pupils. Similarly, Design Education, which is an essential component in all modern Craft courses, has been developed into a foundation course by 2 schools. The almost obsolete subject of Light Crafts is taught in 2 schools, mainly because the limited availability of suitably equipped workshops restricts the teaching of other Craft subjects. Of particular significance in the development of Craft to meet the needs of pupils is the introduction of a foundation course in Technology for all first year boys and girls in one recently reorganised school. The time allocated for its study is equal to that allocated to the study of the more traditional Woodwork and Metalwork.

SPAN OF INFLUENCE OF CRAFT

The span of study time of any subject during the course of a year will influence the education of pupils. Major high status subjects are taught in frequent sessions during the week and throughout the school year. Subjects of lower status, including practical subjects, are frequently taught for one session a week and for spans of time ranging from 6 weeks to a full year. The variation in the length of Craft courses for boys and girls is shown in Table 18.

TABLE 18: SPAN OF INFLUENCE OF CRAFT DEPARTMENTS

SAMPLE = 90 SCHOOLS	CAROUSEL		NON-CAROUSEL		
SPAN OF INFLUENCE	CORE	OPTION	CORE	OPTION	TOTAL
BOYS:					
NO CRAFT	4				4
0 - 1 TERM	6				6
1 TERM TO ½ YEAR	17		1		18
½ YEAR TO 2 TERMS	7	2			9
2 TERMS TO 1 YEAR	25	2	23	3	53
TOTAL	55	4	24	3	90
GIRLS:					
NO CRAFT					23
0 - 1 TERM	7				7
1 TERM TO ½ YEAR	16	1	2		19
½ YEAR TO 2 TERMS	6	2			8
2 TERMS TO 1 YEAR	26	2	5		33
TOTAL	55	5	7		90

Inter-Departmental carousels are likely to provide the best opportunity for boys and girls to have equality of access to Craft during the academic year. In schools where carousels are not operated, boys tend to have Craft lessons over a span of time similar to that provided in schools before comprehensive reorganisation.

If short foundation courses are given in each subject during the year and these courses are taken consecutively, then the influence of the earlier courses on the child will diminish during the remaining part of the year. Where courses in the carousel are given throughout the year, and lessons are given in each subject in rotation, then continuity and enthusiasm can be at risk.

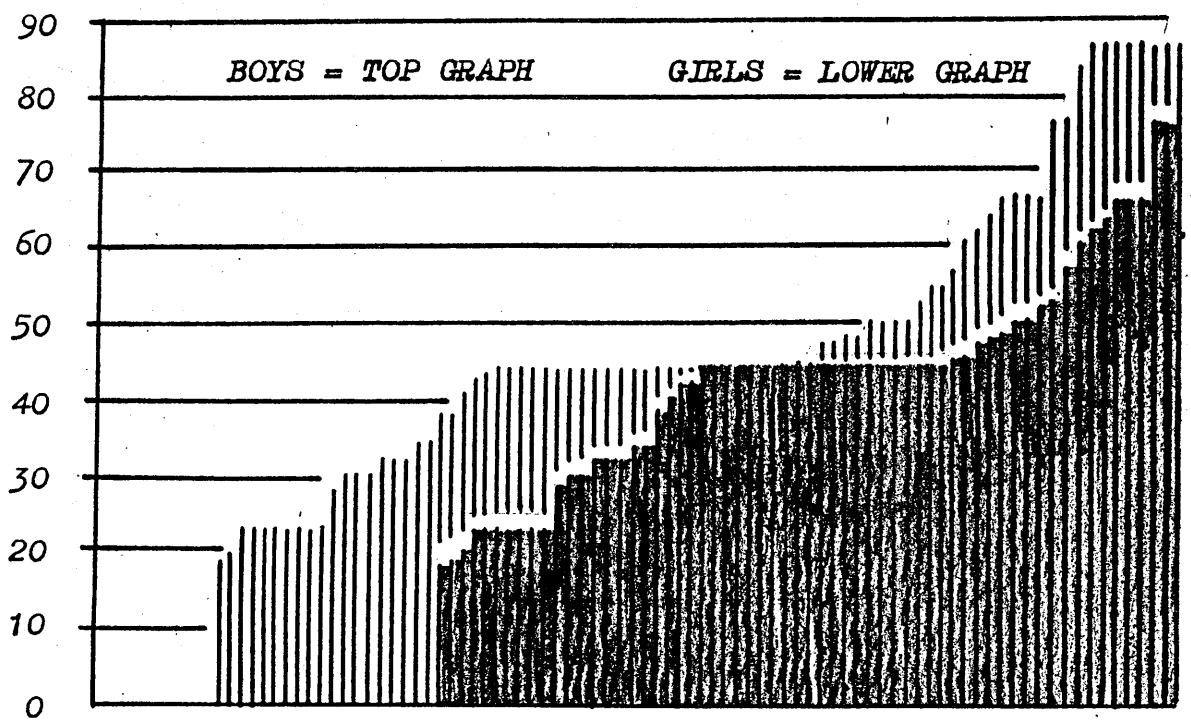
ACTUAL CRAFT TIME ALLOCATED TO FIRST YEAR PUPILS

Having investigated the limitations attached to the theoretical chance of boys and girls having any form of education associated with school workshops, a comparison can now be made with the actual time that schools allow intake pupils to spend on foundation or core Craft courses. These courses, considered to be educationally important in their own right, can be developed into highly specialised subjects such as Engineering, Technology and Graphic Communications.

The statistics produced in **Table** 19 represent the maximum number of hours per year of core workshop time allocated by all 90

comprehensive schools in Essex to first year pupils. The allocation of time, however, is not extended to all pupils. The process of initial classification, timetable logistics, discrimination against girls and the use of the carousel all reduce the number of pupils who actually receive Craft education.

TABLE 19: MAXIMUM NUMBER OF HOURS PER YEAR OF CORE WORKSHOP TIME FOR FIRST YEAR PUPILS



In 31 schools (one school in three) Craft education is a compulsory subject for both boys and girls throughout their first year. The average number of hours per year of core workshop time for first year boys in all comprehensive schools is 42.52% and for girls is 29.16%. The average time for the 31 schools where Craft is taught as a compulsory subject to all boys and girls is 48 hours per year which is equivalent to one 75 minute workshop session every week.

SUMMARY

Within the comprehensive system of reorganised secondary and purpose-built comprehensive schools, pupils can be allocated to different curricula within a school as an outcome of intake procedures.

There is a significant difference in the allocation of resources in schools and these affect the opportunities boys and particularlygirls have to take certain school subjects.

Within the schools, the inter-departmental carousels offer children wide but shallow sampler courses. Although non-Craft subjects are included in the carousels, the dominant subjects are Woodwork, Metalwork, Needlework and Domestic Science.

However there is no provision for compulsory Craft for boys in 10 schools and for girls in 28 schools. On the other hand, 31 schools make compulsory Craft available equally to all boys and girls throughout their first year in the comprehensive school.

5. THE DISTRIBUTION OF CRAFT TO SECOND YEAR PUPILS

EQUAL PROVISION OF RESOURCES

Factors relating to the provision of time and opportunity to study Craft adversely affect the status of the subject and its distribution to all boys and girls in the first year. The same factors, intensified, contribute to a marked decline in the study of the subject by second year pupils.

Although all 90 schools nominally include Craft in the published curriculum for the second year, not all pupils will be taught the subject. Differences occur in the pattern of core subjects taken by pupils and the introduction of option lists helps to distribute the limited time that is available to a variety of subjects, not all of which are associated with the teaching of any Craft. The encroachment into Craft time to allow top stream pupils to study a second language is increased in the second year, with 4 schools reducing Craft time by 50% for these pupils.

Table 20 shows the availability of Craft as a compulsory core or option subject to second year pupils in the 90 comprehensive schools in the County.

Altogether 42 schools (46.66%) offer Craft to all boys and girls equally for varying lengths of time during the second year. Craft is available as a core subject to boys only in 28 schools. In the 18 schools where Craft is offered as an option, 16 provide equal

TABLE 20: AVAILABILITY OF CRAFT TO SECOND YEAR PUPILS

SAMPLE = 90 SCHOOLS AVAILABILITY	BOYS		GIRLS	
	NO. of SCHOOLS	%	NO. of SCHOOLS	%
NO CRAFT			28	31.11
CORE	72	79.99	44	48.88
OPTION	18	20.00	18	20.00
TOTAL	90	100 %	90	100 %

amounts of time to boys and girls. The take up by girls in these schools ranges from 1.5% to 25%. Taking the highest figure provided either as an estimate by Heads of Craft Departments or by the actual returns made by individual teachers in the schools concerned, the average number for the 16 schools is 16% or 3 girls in a class of 20 pupils.

Using the 1983 estimates as illustrations, 79% of boys and 44% of girls were taught compulsory Craft in the second year. Additionally, 21% of boys and girls had the opportunity to choose Craft from an option list that might involve up to six other Departments. It follows that 35% of girls had no opportunity to study Craft in the second year.

THE INTER-DEPARTMENTAL CAROUSEL

There is inter-departmental co-operation in 33 schools in the carousel for core subjects and in a further 20 schools through

the options system. Of these schools, 32 have mixed-ability teaching groups and carousels which, in some cases, can involve up to six Departments. The 21 schools having streamed teaching groups include in the carousels the traditional Craft subjects for boys and girls and in nine of these schools, Art subjects are added to the carousels. Table 21 shows the extent of this inter-departmental involvement.

TABLE 21: THE USE AND COMPOSITION OF THE INTER-DEPARTMENTAL CAROUSEL

SAMPLE = 90 SCHOOLS DEPARTMENTS	*MIXED ABILITY*	*STREAMED*	*TOTAL*
CRAFT ONLY	18	19	37
CRAFT + DOMESTIC SCIENCE	20	12	32
+ ART	7	9	16
+ DRAMA	1		1
+ MUSIC	1		1
CRAFT + D.S. + DRAMA	1		1
CRAFT + D.S. + R. SCIENCE	2		2
TOTAL	50	40	90

In all 53 schools using the carousel, the Craft Departments are linked with the Domestic Science Departments, 18 with Art Departments, 2 with Drama Departments, 2 with Rural Science Departments and 1 school with the Music Department.

The structure of the inter-departmental carousels is less complex than in the first year when 61 schools produced 22 carousels. In the second year, 53 schools produce 13 different carousels, with 26 schools opting for a simple combination of Woodwork, Metalwork, Cookery and Needlework.

Table 22 shows the take-up pattern of schools in relation to whether or not the inter-departmental carousel is used. When compared to the pattern for the first year pupils, shown in Table 16, it will be seen that there is movement in two directions away from compulsory Craft as part of a carousel. The minor movement is towards Craft becoming optional rather than compulsory for all boys and girls in 16 schools. The major movement results in 50 schools having non-carousel Craft in the second year - 25 schools offering Craft to boys and girls and 25 schools offering Craft to boys only. Both movements show that the sampling process of the first year is less popular in the second year and that teachers take the earliest available opportunity, not only to teach their subjects in their own right, but also to encourage boys to take Workshop subjects and girls to take Domestic Science subjects wherever possible.

This attitude is in conflict with the right of access to knowledge that is inherent in the 1975 Sex Discrimination Act. It is brought about largely because extra curriculum time has not been given to Craft Departments to allow them to meet the requirements of the Act. Faced with having to teach boys and girls in the same overall time that had previously been allocated to boys only, schools attempt to overcome the problem in one of six ways. By the system of block timetabling teaching groups, schools, in theory, can

a) direct boys to Craft and girls to Domestic Science for one year courses and make no provision for movement from one group to the other,

TABLE 22: SCATTER DIAGRAM SHOWING THE DISPOSITION OF SCHOOLS IN RELATION TO THE USE OF THE CAROUSEL/ FACULTY AND OPPORTUNITY TO STUDY CRAFT: SECOND YEAR

SAMPLE = 90 SCHOOLS		CAROUSEL					NON - CAROUSEL				
	ORIGIN OF SCHOOL=	TECH./ GRAMMAR	SEC. MODERN	P. B. COMP.	TOTAL	%	TECH./ GRAMMAR	SEC. MODERN	P. B. COMP.	TOTAL	%
CORE	BOYS ONLY: MIXED ABILITY	* 1			1	1.11	*** 3	****** * 7	* 1	11	12.22
	BOYS ONLY: STREAMED		** 2		2	2.22	** 2	****** **** 10	** 2	14	15.55
	BOYS AND GIRLS: MIXED ABILITY	**** 4	****** * 7	*** 3	14	15.55	**** 4	***** 5	****** * 7	16	17.77
	BOYS AND GIRLS: STREAMED	** 2	** 2	* 1	5	5.55	* 1	***** 5	*** 3	9	10.00
OPTION	BOYS ONLY: MIXED ABILITY		* 1		1	1.11					
	BOYS ONLY: STREAMED		* 1		1	1.11					
	GIRLS ONLY: MIXED ABILITY	+									
	GIRLS ONLY: STREAMED		+								
	BOYS AND GIRLS: MIXED ABILITY	* 1	****** 6	*** 3	10	11.11					
	BOYS AND GIRLS: STREAMED	** 2	*** 3	* 1	6	6.66					
	TOTALS	10	22	8	40	44.42	10	27	13	50	55.54

+ = linked with boys only core

b) as in (a) but include provision for changes if these are demanded by parents,

c) as in (b) but insist that the change must be for all subjects in the Department: i.e. girls wishing to take Woodwork will also be required to take Metalwork, boys wishing to take Catering will be required to take Needlework,

d) continue with the sampling method of the first year with many short courses for all boys and girls and involving two or more Departments,

e) allow pupils to select from the carousel for fewer but longer courses, and

f) make all four subjects compulsory for all boys and girls for half-year courses.

In practice the majority of schools choose between compulsory year-long Craft courses for boys only or half-year courses for boys and girls.

SUBJECTS TAUGHT IN CRAFT DEPARTMENTS

Table 23 shows the range of subjects taught in Craft Departments in all 90 comprehensive schools to second year pupils.

One school restricts workshop Crafts to a single subject, 63 schools offer 2 subjects, 22 schools teach 3 subjects and 4 schools have 4 subjects in their Craft carousels. The traditional subjects of Woodwork and Metalwork account for 85.57% of the courses offered and the number of schools teaching Technical

TABLE 23: SUBJECTS TAUGHT IN CRAFT DEPARTMENTS TO SECOND YEAR PUPILS

SAMPLE = 90 SCHOOLS SUBJECTS TAUGHT								INTER - DEPARTMENTAL				
								CAROUSEL		NON - CAROUSEL		
								MIXED - ABILITY	STREAMED	MIXED - ABILITY	STREAMED	TOTAL
	MK										1	1
	MK	TD								1		1
WK	MK							27	11	11	13	62
WK	MK	TD						4	3	3	6	16
WK	MK		PL					1		1		2
WK	MK				LC			1				1
WK	MK					TE		1	1			2
WK	MK						EL				1	1
WK	MK	TD				TE		1		1		2
WK	MK		PL	DE						1		1
WK	MK	TD	PL						1			1
88	90	20	4	1	1	4	1	35	16	18	21	90

Drawing is increased from 15 in the first year to 20 in the second year. There is a decline in the number of schools offering courses in Plastics, Design and Light Crafts. One significant change is that 3 other schools join the single school that introduced a foundation course in Technology in the first year. The 4 schools allocate the subject equal time with Woodwork, Metalwork and Technical Drawing. There are 2 schools offering Technology as an option for boys and girls, 1 school teaching it as a core subject to all boys and girls and 1 school including it with the core subjects for boys only.

One innovation that is a pointer to a possible change in the scope of Craft courses is the introduction of a foundation course in Electronics. This is taught as a core subject to boys only in 1 school. Electronics is directly linked with the activities of the Science Departments and is a recognised subject module in courses leading to examinations in Technology. In this instance, it is allocated 40% of total workshop time compared with 40% for Woodwork and 20% for Metalwork.

SPAN OF INFLUENCE OF CRAFT

The span of the influence of Craft as indicated by the length of Craft courses in the second year is shown in Table 24. Where

TABLE 24: SPAN OF INFLUENCE OF CRAFT DEPARTMENTS

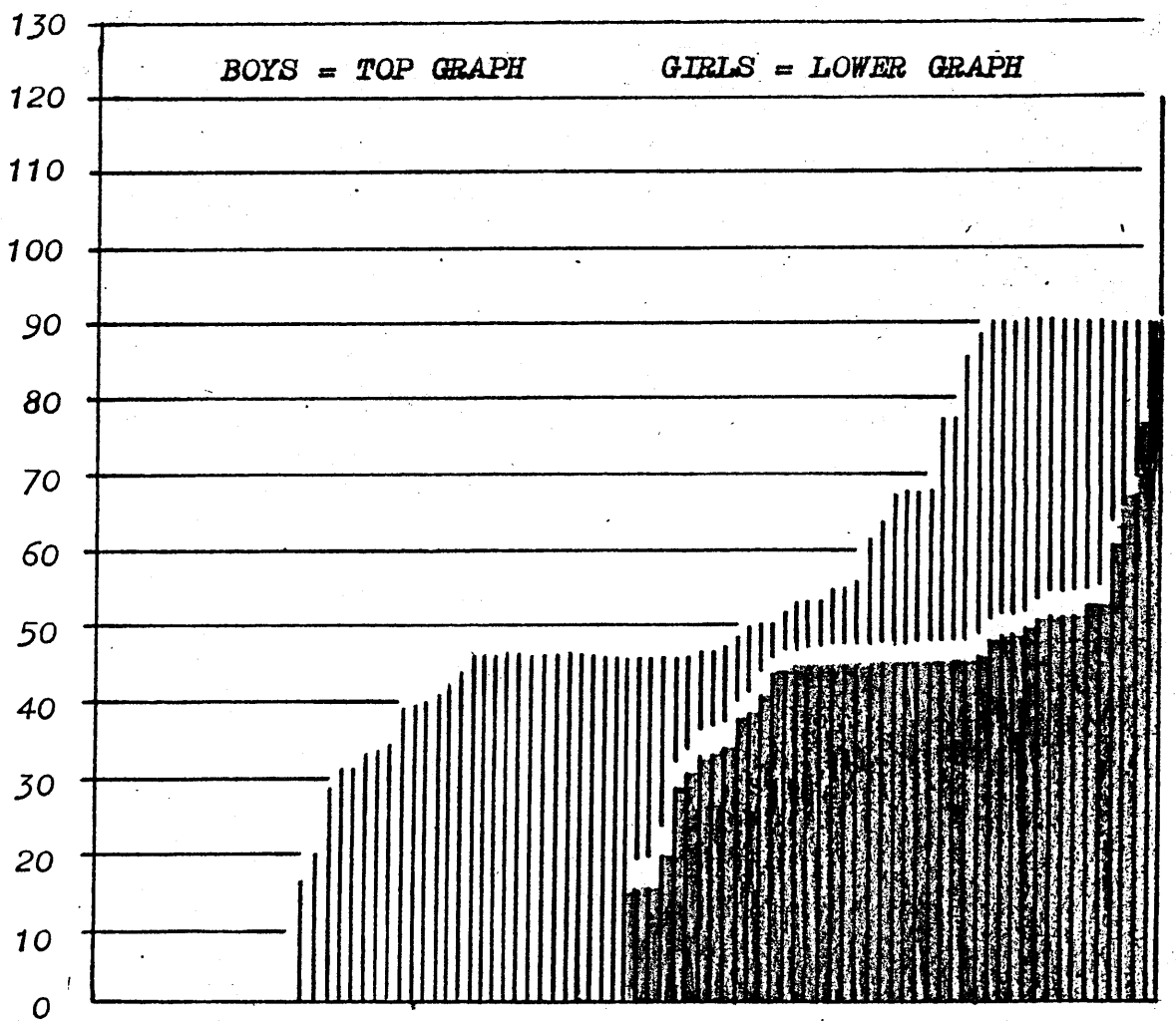
	INTER - DEPARTMENTAL					
SAMPLE - 90 SCHOOLS	CAROUSEL		NON-CAROUSEL		TOTALS	
SPAN OF INFLUENCE	CORE	OPT.	CORE	OPT.	2nd.Yr.	1st.Yr.
BOYS:						
NO CRAFT						4
0 - 1 TERM	3		3		6	6
1 TERM TO ½ YEAR	2		5		7	18
½ YEAR TO 2 TERMS	4	3			7	9
2 TERMS TO 1 YEAR	13	15	42		70	53
TOTAL	22	18	50		90	90
GIRLS:						
NO CRAFT	3		25		28	23
0 - 1 TERM	4		3		7	7
1 TERM TO ½ YEAR	2		5		7	19
½ YEAR TO 2 YEARS	3	3			6	8
2 TERMS TO 1 YEAR	10	15	17		42	33
TOTAL	22	18	50		90	90

Craft is taught, there is a marked tendency for it to be in year-length courses - particularly as a core subject for boys.

ACTUAL CRAFT TIME ALLOCATED TO SECOND YEAR PUPILS

The statistics produced in Table 25 represent the maximum number of hours per year of core workshop time allocated by all 90 comprehensive schools in Essex to second year pupils.

TABLE 25: MAXIMUM NUMBER OF HOURS PER YEAR OF CORE WORKSHOP TIME FOR SECOND YEAR PUPILS



The maximum number of hours shown does not apply to all pupils because of the same constraints which relate to first year pupils - see page 111. Only 26 schools, (28.88%) or approximately 2 schools in 7, make Craft education available as a compulsory subject equally to boys and girls throughout their second year in the comprehensive school. The average time spent on the subject in the 26 schools where Craft is compulsory for all boys and girls is 48 hours per year, which is equivalent to one 75 minute workshop session every week. Of these 26 schools 20 give equal Craft education to all boys and girls throughout both first and second years.

SUMMARY

Factors which affected the availability of Craft to all pupils in the first year still apply in the second year. In addition, the reduction in the use of the carousel is matched by an increase in the number of longer courses in traditional subjects. The outcome is that boys tend to be taught Woodwork and Metalwork and girls to be taught Needlework and Domestic Science. Technical Drawing is added to the Craft syllabus in 20 schools.

Opportunities remain unequal. There is no provision for compulsory Craft for boys in 18 schools and for girls in 46 schools. However, 26 schools make compulsory Craft available equally to all boys and girls throughout their second year in the comprehensive school. Of these, 20 give equal Craft education to all boys and girls throughout the first and second years.

6. THE DISTRIBUTION OF CRAFT TO THIRD YEAR PUPILS

EQUAL PROVISION OF RESOURCES

The progressive decline in the provision of time and opportunity to study Craft that was monitored from the first to the second year continues into the third year.

Discrimination against the study of Craft in favour of the study by top stream pupils of a second or third language is practised in 4 schools in the second year and 10 schools in the third year. Although Craft is theoretically a core subject at 5 of these schools, pupils are withdrawn from between 25% and 100% of their allocation of Craft time. The other 5 schools, where Craft subjects join those from Domestic Science and Art Departments to make a Creative Studies option, remove top stream pupils from one or two lessons or from 16% to 50% of possible option time, thereby limiting their opportunities to avail themselves of the option.

Of significance to those who seek to upgrade the status of school Craft is the fact that two of these schools include a Technology option in the carousel. The direction of top stream pupils away from Craft and to additional languages removes them from the early influence of an area of study that is in need of every possible input of top stream pupils.

Table 26 shows the availability of Craft as a compulsory core or option subject to third year pupils in the 90 comprehensive schools in the county.

TABLE 26: AVAILABILITY OF CRAFT TO THIRD YEAR PUPILS

SAMPLE = 90 SCHOOLS / AVAILABILITY	BOYS		GIRLS	
	No. of SCHOOLS	%	No. of SCHOOLS	%
NO CRAFT			40	44.44
CORE	54	60.00	12	13.33
OPTION	36	40.00	38	42.22
TOTAL	90	100 %	90	100 %

Only 11 schools (12.22%) offer Craft to all boys and girls equally for varying lengths of time during the third year. A further 42 schools make Craft available as a core subject to boys only. In 29 of the schools where Craft is offered as an option, a takeup by girls is recorded which ranges from 1.4% to 60% of the year group. Taking the highest figure provided either as an estimate by Heads of Craft Departments or in the actual returns made by individual teachers in the school concerned, the average number for the 29 schools is 16.80% or 3 girls in a class of 20 pupils.

Using the 1983 estimates as illustrations, 61% of boys and 13% of girls were taught compulsory Craft in the third year. Additionally 39% of boys and 40% of girls had the opportunity to choose Craft from an option list that might involve up to five other Departments. However, 47% of girls had no opportunity to study Craft in the third year.

THE INTER-DEPARTMENTAL CAROUSEL

There is inter-departmental co-operation by 11 schools in the carousel for core subjects and by a further 32 schools through the option system. In the third year, 26 schools have mixed-ability teaching groups and 17 schools have streamed teaching groups. Table 27 shows the extent of this inter-departmental involvement.

TABLE 27: THE USE AND COMPOSITION OF THE INTER-DEPARTMENTAL CAROUSEL

SAMPLE = 90 SCHOOLS DEPARTMENTS	*MIXED ABILITY*	*STREAMED*	*TOTAL*
CRAFT ONLY	26	21	47
CRAFT + DOMESTIC SCIENCE	18	10	28
+ ART	5	5	10
+ DRAMA + MUSIC	1		1
CRAFT + DS + ART + MUSIC		1	1
CRAFT + DS + ART + RS		1	1
CRAFT + DS + RS	2		2
TOTAL	52	38	90

The Craft Departments in all 43 schools using the inter-departmental carousel link with the Domestic Science Departments, 13 further link with the Art Departments, 3 with Rural Science Departments, 2 with Music Departments and 1 with a Drama Department.

Compared with the second year, the structure of the inter-departmental carousels becomes more complex in the third year with

43 schools producing 13 different combinations of subjects. There are 8 schools providing a simple pattern of Woodwork, Metalwork, Domestic Science and Needlework.

Table 28, in showing the degree to which schools use the carousel, indicates that there is less provision for core and more provision for optional Craft than in the second year. The existence of options which are not part of a carousel system is evidence that schools are permitting a degree of specialisation in the study of individual subjects. The consequence of this action is that pupils are given regular weekly lessons throughout the school year.

Table 28 also shows the sharp decline in the number of schools where girls take Craft. As no extra time is allowed in the curriculum for the provision of compulsory Craft for girls, the second year practice of providing either year-long courses for boys only or half-year courses for all boys and girls also applies in the third year.

SUBJECTS TAUGHT IN CRAFT DEPARTMENTS

Table 29 shows the range of subjects taught in Craft Departments in all 90 comprehensive schools to third year pupils. There are 31 schools providing 2 subjects for study in school workshops, 49 schools offering 3 subjects, 4 schools teaching 4 subjects and 1 school providing courses in 5 subjects.

The traditional subjects of Woodwork and Metalwork retain the popularity of previous years. The three-fold increase in the

TABLE 28: SCATTER DIAGRAM SHOWING THE DISPOSITION OF SCHOOLS IN RELATION TO THE USE OF THE CAROUSEL/ FACULTY AND OPPORTUNITY TO STUDY CRAFT: THIRD YEAR

SAMPLE = 90 SCHOOLS		CAROUSEL					NON - CAROUSEL				
	ORIGIN OF SCHOOL=	TECH./ GRAMMAR	SEC. MODERN	P.B. COMP	TOTAL	%	TECH./ GRAMMAR	SEC. MODERN	P.B. COMP	TOTAL	%
CORE	BOYS ONLY: MIXED ABILITY	* 1	** 2	* 1	4	4.44	***** 5	****** ****11	*** 3	19	21.11
	BOYS ONLY: STREAMED	**** 4			4	4.44	** 2	****** *** 10	*** 3	15	16.66
	BOYS AND GIRLS: MIXED ABILITY	*** 3	* 1	* 1	5	5.55	* 1	* 1	** 2	4	4.44
	BOYS AND GIRLS: STREAMED						* 1	* 1	* 1	3	3.33
OPTION	BOYS ONLY: MIXED ABILITY							* 1		1	1.11
	BOYS ONLY: STREAMED		** 2		2	2.22	* 1		* 1	2	2.22
	GIRLS ONLY: MIXED ABILITY	+	+	+				+			
	GIRLS ONLY: STREAMED		+++								
	BOYS AND GIRLS: MIXED ABILITY	** 2	****** *** 9	**** 4	15	16.66	* 1	* 1	*** 3	5	5.55
	BOYS AND GIRLS: STREAMED	*** 3	**** 4	* 1	8	8.88		** 2	* 1	3	3.33
	TOTAL	9	22	7	38	42.19	11	27	14	52	57.75

+ = linked with boys only core

TABLE 29: SUBJECTS TAUGHT IN CRAFT DEPARTMENTS TO THIRD YEAR PUPILS

SAMPLE = 90 SCHOOLS SUBJECTS TAUGHT							INTER - DEPARTMENTAL				
							CAROUSEL		NON - CAROUSEL		
							MIXED - ABILITY	STREAMED	MIXED - ABILITY	STREAMED	TOTAL
WK	MK						12	1	8	8	29
WK	MK	TD					8	12	15	12	47
WK	MK		PL						1		1
WK	MK	TD	PL							1	1
WK	MK		PL	DE			1				1
WK	MK				TE				1		1
WK	MK	TD			TE		3	1	2	1	7
		TD			TE				1		1
	MK	TD								1	1
WK	MK	TD			TE	LC			1		1
88	89	58	3	1	10	1	24	14	29	23	90

number of schools providing courses in Technical Drawing can be explained by

a) the need for pre-examination coursework to begin as early as possible in this subject, and

b) the recent change of image whereby the more formal style of drawing is being replaced or supplemented by a commercially artistic and design oriented approach, known as Graphic Communications.

This approach to Technical Drawing appeals to boys who consider that formal work has less value in the modern world of computers. At the same time the subject, always the most popular of workshop subjects with girls, has an even greater attraction for those who see the new approach as being of real value in any vocation where elements of design are required.

The most significant change in the subjects taught in school workshops is that 1 school in 9 offers Technology in the third year. The wide body of knowledge and the practical work involved requires concepts to be mastered as early as possible. Boys study Technology as a compulsory subject in 4 schools and can study it as an option in 6 schools. One school teaches Technology as a compulsory subject to girls and they can study it as an option in 6 other schools.

SPAN OF INFLUENCE OF CRAFT

The span of influence as indicated by the length of Craft courses in the third year is shown in Table 30. In all 93.33% of courses for boys and 88.63% of courses for girls extends for the whole school year.

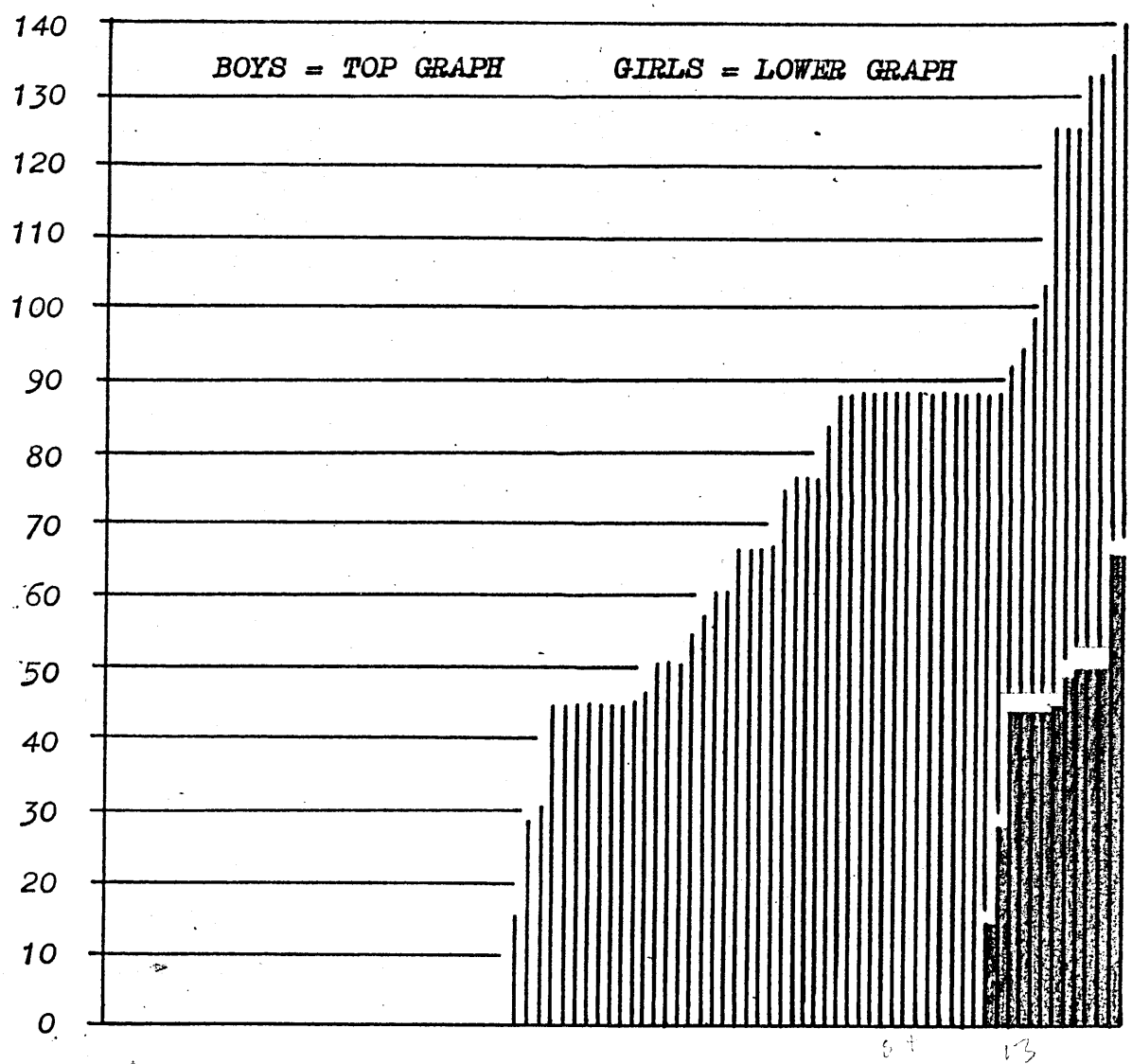
TABLE 30: SPAN OF INFLUENCE OF CRAFT DEPARTMENTS

	INTER - DEPARTMENTAL					
SAMPLE = 90 SCHOOLS	CAROUSEL		NON-CAROUSEL		TOTALS	
SPAN OF INFLUENCE	CORE	OPT.	CORE	OPT.	3rd. Yr.	2nd. Yr.
BOYS:						
NO CRAFT						
0 - 1 TERM	2				2	6
1 TERM TO ½ YEAR	1				1	7
½ YEAR TO 2 TERMS	1	1	1		3	7
2 TERMS TO 1 YEAR	9	24	40	11	84	70
TOTAL	13	25	41	11	90	90
GIRLS:						
NO CRAFT	4		37		41	28
0 - 1 TERM	2				2	7
1 TERM TO ½ YEAR	1				1	7
½ YEAR TO 2 TERMS		2			2	6
2 TERMS TO 1 YEAR	2	27	7	8	44	42
TOTAL	9	29	44	8	90	90

ACTUAL CRAFT TIME ALLOCATED TO THIRD YEAR PUPILS

The statistics produced in Table 31 indicate the maximum number of hours per year of core workshop time allocated by all 90 comprehensive schools in Essex to third year pupils.

TABLE 31: MAXIMUM NUMBER OF HOURS PER YEAR OF CORE WORKSHOP TIME FOR THIRD YEAR PUPILS



The maximum number of hours shown does not apply to all pupils because of the same constraints which relate to first and second year pupils - see page 122. Only 10 schools (11.11%) or one school in nine make Craft education available as a compulsory

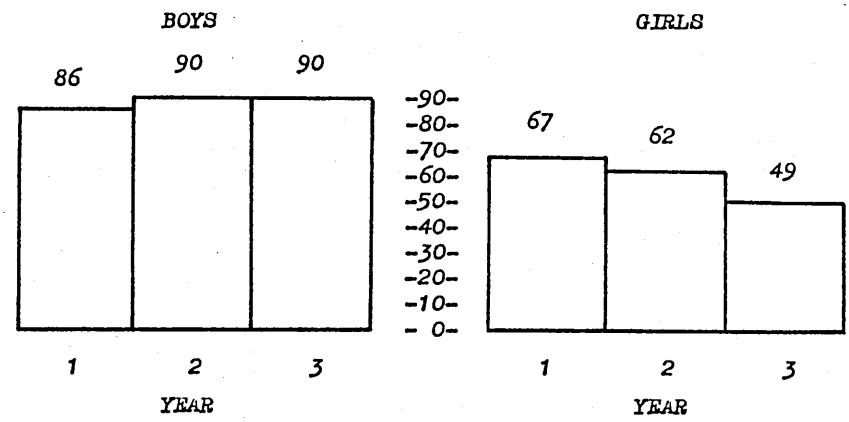
subject equally to boys and girls throughout their third year in the comprehensive school. The average time allocated to the subject in these schools is 43 hours per year, which is equivalent to one 68 minute workshop session every week. Of these 10 schools, 5 give equal Craft education to all boys and girls throughout the first, second and third years.

STATISTICAL SUMMARY: YEARS 1 - 3

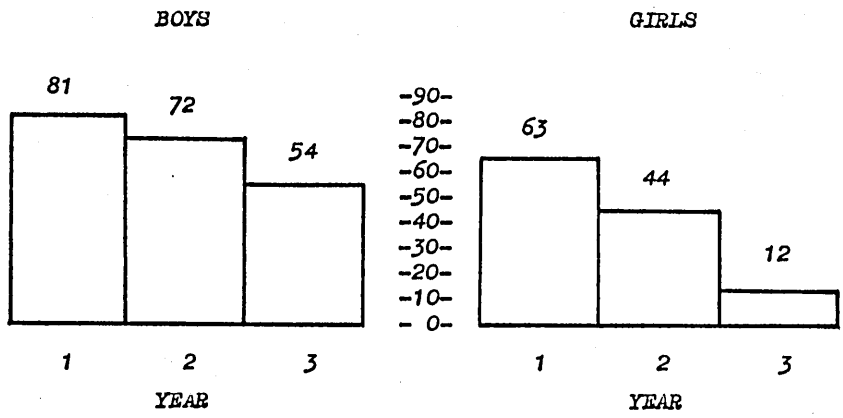
Table 32 shows the maximum number of schools offering Craft to boys and girls for any period of time during the first three years in the comprehensive schools and illustrates the decline of the availability of Craft for girls during this period. Tables 33 and 34 separate the core and option components related to this availability. The severe reduction ofcompulsory Craft for girls is emphasised.

The availability of an option in any of the first three years involves pupils in a selection and rejection process. The removal of subjects from the personal curriculum of pupils for one or more years effectively reduces the number of viable option choices which can be made when their curricula for the 4th, 5th and 6th years are being considered.

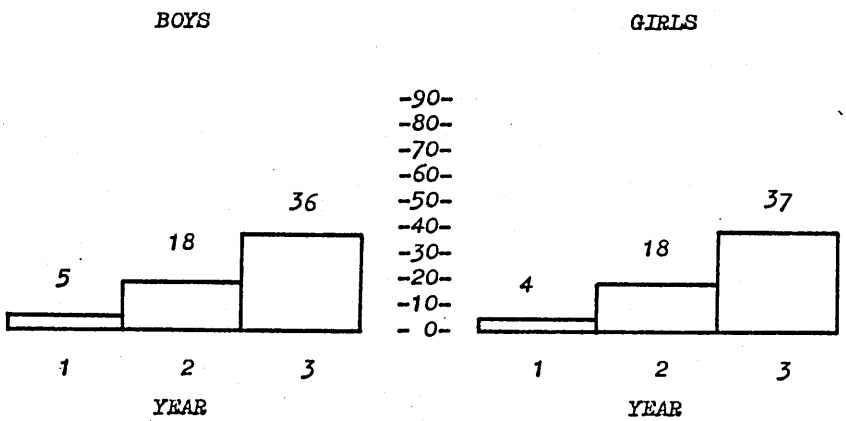
.TABLE 32: NUMBER OF SCHOOLS OFFERING CRAFT YEARS 1 - 3



.TABLE 33: NUMBER OF SCHOOLS OFFERING COMPULSORY CRAFT YEARS 1 - 3



.TABLE 34: NUMBER OF SCHOOLS OFFERING OPTIONAL CRAFT YEARS 1 - 3



The gradual reduction in the number of Domestic Science and Art Departments' contributions to the inter-Departmental carousels is noted in Table 35. Table 36 illustrates the extent to which Craft Departments include subjects considered to be of interest to 11 to 14 year old boys and girls. Of significance is the increase in the availability of Technical Drawing in the third year. The modern interpretation of this subject, discussed on page 128 may well be responsible for the increase in the availability of this subject in the third year.

TABLE 35: INVOLVEMENT OF DEPARTMENTS IN CAROUSELS

	YEAR					
	1		2		3	
DEPARTMENT	No.	%	No.	%	No.	%
CRAFT	86	95.55	90	100.00	90	100.00
DOMESTIC SCIENCE	61	67.77	53	58.88	43	47.77
ART	24	26.66	18	20.00	13	14.44
DRAMA	3	3.33	2	2.22	1	1.11
MUSIC	2	2.22	1	1.11	2	2.22
RURAL SCIENCE	1	1.11	2	2.22	3	3.33
TOTAL	177		167		152	

TABLE 36: SUBJECTS TAUGHT IN CRAFT DEPARTMENTS

	YEAR 1		2		3	
SUBJECT	No.	%	No.	%	No.	%
WOODWORK	85	94.44	88	97.77	88	97.77
METALWORK	82	91.11	90	100.00	89	98.88
TECHNICAL DRAWING	15	16.66	20	20.22	58	64.44
PLASTICS	8	8.88	4	4.44	3	3.33
DESIGN	2	2.22	1	1.11	1	1.11
LIGHT CRAFTS	2	2.22	1	1.11	1	1.11
ELECTRONICS			1	1.11		
TECHNOLOGY	1	1.11	4	4.44	10	11.11
TOTAL	195		209		250	

SUMMARY

Factors which affected the availability of Craft to all pupils in the second year remain relevant in the third year. The progressive decline in the opportunity to study Craft is compounded by the fact that 10 schools withdraw top stream pupils from Craft lessons for the purpose of modern language study. Within the Craft Departments, 58 schools include Technical Drawing as part of the syllabus and 10 schools have introduced foundation courses in Technology. There is no provision for compulsory Craft for boys in 37 schools and for girls in 78 schools. As few as 10 schools make compulsory Craft available equally to all boys and girls throughout their third year in the comprehensive school. Of these, 5 give equal Craft education to all boys and girls throughout the first, second and third years.

7. THE COMPOSITION OF THE 4th AND 5th YEAR CURRICULUM

COMPONENTS OF THE CURRICULUM

All subjects taught in the 4th and 5th years in any school can be allocated to the categories of

a) CORE: the compulsory subjects,

b) CORE-OPTION: an optional choice from a faculty list, and

c) FREE OPTION: a guided choice designed to complete the formation of a balanced curriculum for individual pupils.

The curriculum of every pupil in Essex comprehensive schools is made up of core subjects together with either or both of the option components and is based on that pupil's individual requirements. With up to 20,000 subject combinations available in a medium-size school, it is important that pupils and parents, as well as the teachers who compile the individual curricula, are in possession of basic information.

THE INFORMATION PACK

All schools explain to pupils during their third year what curriculum arrangements will be in operation for them when they enter the 4th and 5th years at school. This information would normally include details of the core, core-options and free options, together with examination requirements for careers and for further education. Pupils are then expected to pass on this information to parents and to discuss with them the likely combination of option subjects that pupils need to satisfy their educational, recreational and vocational needs during the next two years.

Schools also supply options literature to supplement that given to the 14 year old pupils and, at the same time, to inform parents of the contents of modern comprehensive school courses. The information pack is supplied prior to a parents' evening when the whole structure of the 4th and 5th year curriculum is explained in greater detail and when parents and pupils have opportunities to discuss curriculum matters with individual subject teachers. Not all parents are willing or able to attend these functions. For these, the assessment of the curriculum will be based on the transmission and translation of such information as the child has remembered, plus the information supplied in the options pack. The information can range from a single sheet, setting out the various option blocks, to the professionally produced illustrated brochures that reflect the importance the schools attach to the decision-making process. The best contain generous supplies of information concerning careers and full details of each course on offer and are written so that they may be understood by pupils of all abilities and their parents.

Important as extensive information is to the general decision-making process, it is particularly vital to Craft, and other practical subjects, if their value is to be presented to pupils and parents to enable them to make informed choices of options. For this reason, a major project, within the scope of the research, has been the study of material supplied to pupils and parents to enable them to make these informed choices. Altogether 80 of the 88 comprehensive schools having 4th and 5th year pupils during the period of research supplied information packs. The

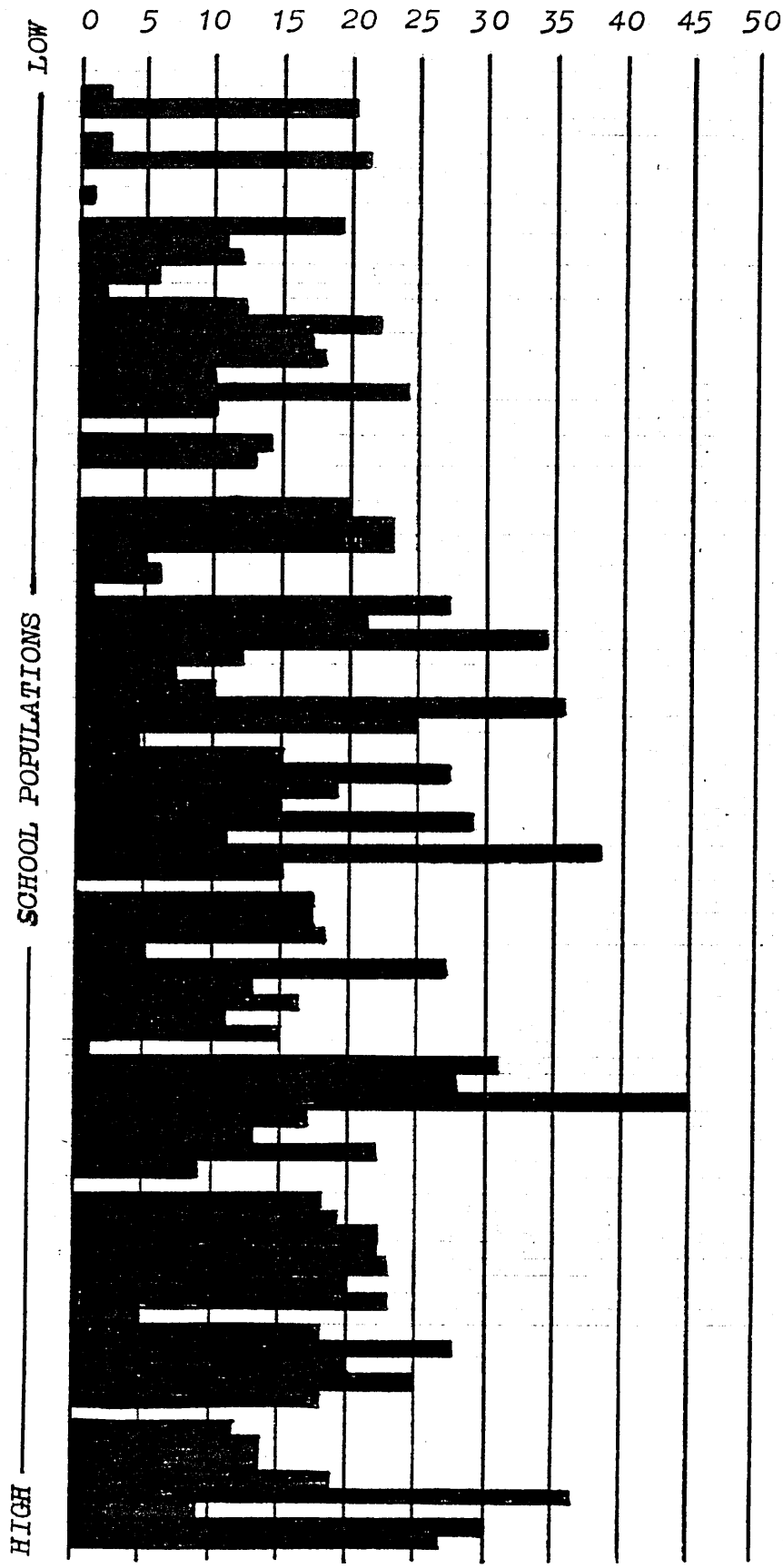
quantity of literature provided can be a guide to the willingness of the schools to use the valuable resources of teacher time and capitation in order to ensure that option choices are made on the best available and most topical information. Table 37 shows the quantity of information provided by schools in relation to the size of the school. There is no correlation between the amount of information provided and the size of the population of the schools. A detailed study of the information packs suggests that the maximum communication of advice and information to pupils and parents will be achieved only if certain topics are covered. If they are not, then decisions will be made without full knowledge of relevant facts and also without the written professional support, guidance and concern of teachers which is so evident in the texts of many information packs.

The contents of information packs, together with details of the numbers of schools including each item in their particular packs, are listed below:

1. PERSONAL LETTERS TO PUPILS AND PARENTS

So that pupils and parents continually realise that they are involved in the important decision making process, 31 schools (38.75%) include a letter to both pupils and parents from the Headteacher or the Director of Studies. A further 17 schools (21.25%) include a letter to parents only and 23 schools (28.75%) a letter to pupils only. Letters are not included in 9 information packs (11.25%).

TABLE 37: NUMBER OF INFORMATION SHEETS IN OPTIONS PACKS SUPPLIED TO PUPILS AND PARENTS



2. CALENDAR OF EVENTS

17 schools (21.25%) include, in a timetable of events relating to the administration of the options system, a reminder to parents to keep free the date of the Open Evening when the proposed option choices can be discussed with individual subject teachers.

3. STATEMENT THAT PUPILS SHOULD ATTEND OPEN EVENINGS

While all schools indicate that pupils must be actively involved at all stages of the options selection, 3 schools (3.75%) insist that pupils must be present with their parents at Open Evenings.

4. RELEVANCE OF LOWER SCHOOL CURRICULUM

20 schools (25.00%) compare the compulsory nature of the Lower School curriculum, where a study of up to 12 subjects provides an general broad-based education, with the more specialised and advanced work to be undertaken in the Upper School - largely as a outcome of option choices.

5. OPTIONS SYSTEM EXPLAINED

32 schools (40.0%) explain the complex options system that is devised to give the greatest possible measure of self-determination to pupils when they make their option choices.

6. EXAMINATIONS

39 schools (48.75%) explain the essential characteristics of the two major examinations taken in schools and how different teaching methods and assessments of work done can give comparable examination results.

7. THE IMPORTANCE OF DECISIONS

32 schools (40.00%) stress that, even though 14 year old pupils may be undecided about future careers, decisions taken at this stage to adopt or reject subjects can have a direct bearing, not only on school life for the next two years, but also in the long term on careers, further education prospects and leisure time.

8. GUIDANCE

While all schools accept that guidance on careers is part of the normal core of instruction given to pupils, 43 (53.75%) emphasise the availability of sound advice within the school supported by sound advice from parents.

9. INFORMED CHOICES

4 schools (5.00%) explain that the literature supplied is essential reading, as it is part of the parents' duty to advise their children from a position of knowledge and not to rely on their own remembered experiences of school. This is particularly important now that(a) many traditional jobs are disappearing in the micro-chip revolution, (b) employers and professional organisations are changing acceptable qualifications, (c) many pupils will change their job or career in later life and will require different skills, and (d) the career intentions of many 14 year olds are not finally formulated or decided on.

10. CAREER INTEREST

48 schools (60.00%) emphasise the underlying aim of education in the 4th and 5th years as being directed towards the careers and further education of the pupils. An essential part of many of the information packs from these schools consists of lists of

careers and the qualifications needed to obtain entry to them. The standard work by Smith and Matthew,[1] specially written for the 1980's, is available in many schools and considered to be essential reading by pupils and parents.

11. PERSONAL INTEREST

34 schools (42.50%) explain the need to allow all pupils to opt for at least one subject for non-career reasons. Although this subject can be examined, the primary aim is to help the pupil to develop fully and to cater for the expected increase in leisure time in the future.

12. BALANCED CURRICULUM

39 schools (48.75%) remind pupils and parents that a changing society requires its future citizens to have a broad education with some specialisation and that the schools' objectives must go beyond merely training pupils for specific jobs.

13. LIMITATIONS OF COURSES OFFERED

41 schools (51.25%) draw attention to the need to consider reserve options, in case the lack of teachers, accommodation or support for particular courses results in the courses being withdrawn.

14. LIST OF OPTIONS

As well as being of assistance to pupils and parents, an alphabetical list of option subjects creates an impression of

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1. SMITH, M. and MATTHEW, V. (1980) Your Choice at 13+ is a Careers Research and Advisory Centre publication

equality of status. Where lists of options are provided, 13 (16.25%) are alphabetical.

The number of topics included in the information packs is shown in Table 38 where they are arranged in order of size of school.

CORE SUBJECTS

Core subjects are taught, without exception, to every pupil of a school. The two main core subjects are Mathematics and English and these are taught in all 88 comprehensive schools where there are 4th and 5th years. Other timetabled core subjects are Physical Education with Games, taught in 73 schools (82.95%), Careers, taught in 53 schools (60.22%) and, exceptionally, European Studies that is taught in just one school. A Personal Development programme, included in the core curriculum of 72 schools (81.81%) is a combination of Social, Health and Moral Education, Religious Education, Current Affairs and Careers advice with some or all being covered in rotation throughout the 4th and 5th years. The proportions of time allocated to the core curriculum range from 20% to 52% with an average of 39.93% for the 88 schools in the sample. This range of percentages and the number of schools in each is shown in Table 39.

CORE OPTIONS

All schools require pupils to have a balanced education. Smith and Matthew [1] in the recommended reading for pupils and parents

1. SMITH & MATTHEW (1980) ibid, p.24

TABLE 38: OPTIONS INFORMATION SUPPLIED BY SCHOOLS TO PUPILS AND PARENTS LISTED IN ORDER OF SIZE OF SCHOOL

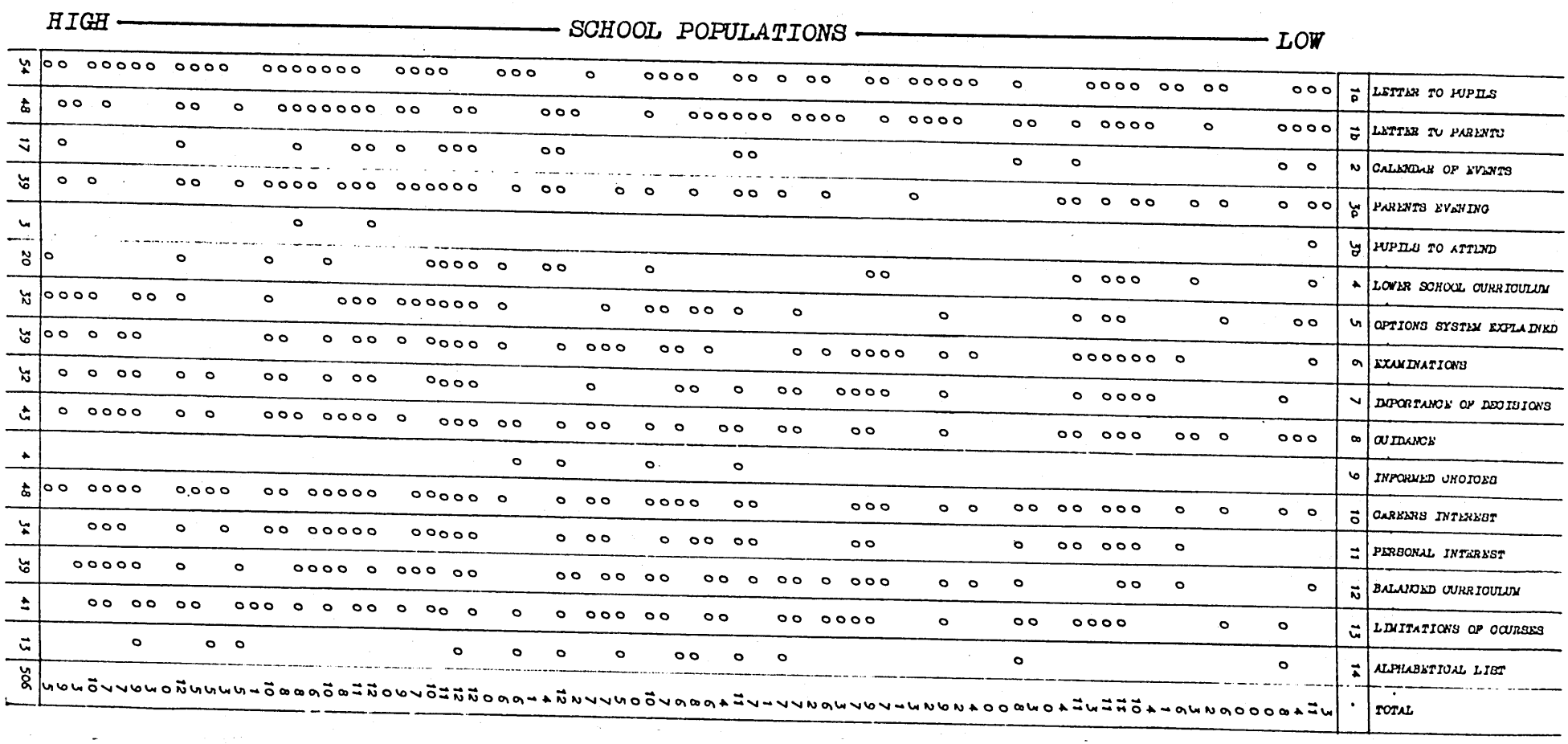
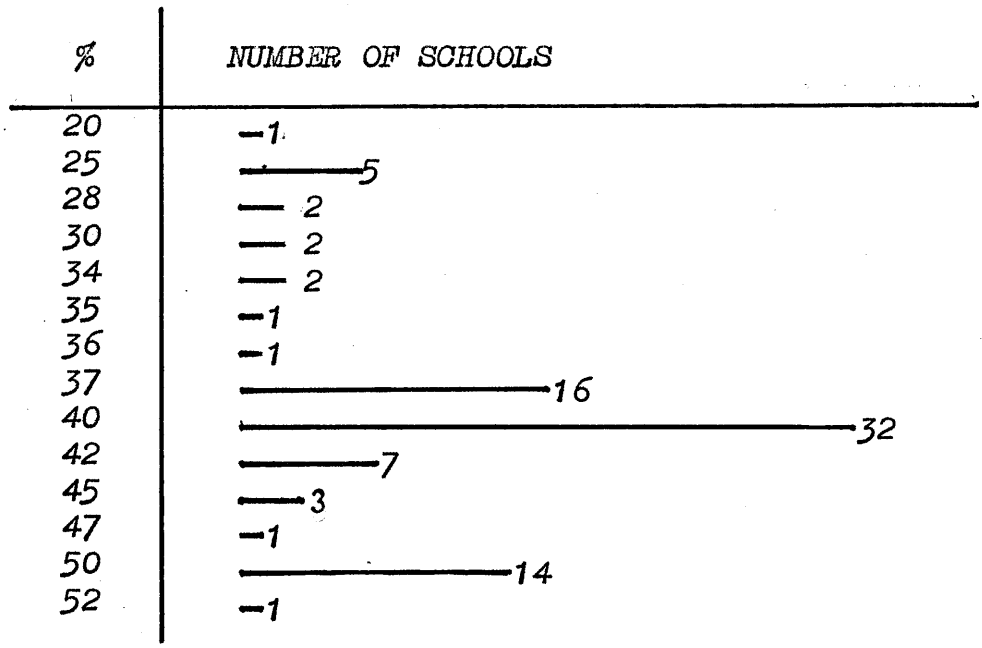


TABLE 39: PROPORTION OF CURRICULUM TIME ALLOCATED TO CORE SUBJECTS SAMPLE - 88 SCHOOLS



suggest that the principal areas of study to be added to Mathematics and English are Modern Languages, Science, Humanities and Creative subjects. It is further suggested that all areas of study should be seen as being of equal value in providing the best preparation against most of the known and unknown situations which befall pupils.

These suggested areas of study form the core options and the use of the system should ensure that every pupil will study a subject from a specified branch of knowledge. For example, pupils make a choice from Biology, Chemistry, Physics or General Science from the Science core option. The core option is imposed by 49 schools (55.68%) and suggested by 24 schools (27.27%). The remaining 15 schools (17.04%) include the suggested areas of study in the guided choice of free options. Table 40 shows the distribution of core options among the 73 schools.

TABLE 40: DISTRIBUTION OF CORE OPTIONS SAMPLE - 88 SCHOOLS

FACULTY CORE OPTION	*IMPOSED*	*SUGGESTED*	*TOTAL*	*%*
SCIENCES	*49*	*24*	*73*	*82.95*
HUMANITIES	*35*	*22*	*57*	*64.77*
LANGUAGES	*9*	*12*	*21*	*23.86*
CRAFT/CREATIVE	*33*	*20*	*53*	*60.22*

The faculty core options assist pupils in making choices without having to compare or balance these subjects with those from other faculties, as would be the case with multi-faculty option blocks. Where the faculty core options system applies, up to 6 option blocks contain the names of all courses on offer and pupils are required to make one choice from each block within the limitations of the options instructions.

With reference to the academic core options, where the instructions state that pupils must study one Science subject, one Modern Language and one Humanities subject (even though these subjects may be presented in multi-faculty lists), these areas of knowledge will be studied even by slow learners who will have suitable faculty-based courses designed for them. Where instructions state that pupils must take one subject from each of the Science, Modern Languages and Humanities core option blocks there is evidence that other subjects will be included, mainly of a practical nature, which do not come within the ambit of the particular faculties. These added subjects are more likely to attract the slow learners and poorly motivated pupils than are the faculty subjects.

The statement, published in the prospectuses of schools where this system operates, that all pupils will have a balanced curriculum is therefore either misleading or inaccurate.

Table 41 shows the relationship between the total number of academic faculty core options, the number of schools producing academic faculty option blocks and those schools where these blocks contain only subjects from those faculties. 4th year pupils and their parents making choices from faculty core option blocks will be provided with lists where 54.54% of Science, 64.10% of Humanities and 64.28% of Language blocks will contain subjects taught by other Departments.

TABLE 41: THE ACADEMIC FACULTY CORE OPTIONS

ACADEMIC FACULTY	*SCHOOLS WITH FACULTY CORE OPTIONS*	*SCHOOLS WITH FACULTY CORE OPTION BLOCKS*	*SCHOOLS WITH VALID CORE OPTION BLOCKS*
SCIENCE	*73*	*44*	*20*
HUMANITIES	*57*	*39*	*14*
LANGUAGES	*21*	*14*	*5*

The proportion of time allocated to the imposed core options ranges from 10% to 50% with an average of 28.14% for the 49 schools in the sample. The range of percentages and the number of schools in each item is shown in Table 42.

The flexibility of the system where schools only suggest that the core options are taken can be used to advantage by the more academic pupils. They can include additional academic subjects

TABLE 42: PROPORTION OF CURRICULUM TIME ALLOCATED TO IMPOSED CORE OPTION SUBJECTS SAMPLE = 49 SCHOOLS

%	NUMBER OF SCHOOLS
10	4
11	1
12	1
15	1
20	7
21	1
22	1
25	4
30	13
34	1
36	2
37	7
40	3
45	1
48	1
50	1

in their personal curricula by ignoring those from the creative options block, and, in some cases, from the Humanities block. Conversely, the same flexibility allows pupils with low academic ability to replace an academic subject - usually a Modern Language - with an additional practical subject.

The proportion of time allocated to the suggested core options ranges from 10% to 50% with an average of 35.35% for the 24 schools in the sample. The range of percentages and the number of schools in each is shown in Table 43.

The division of pupils into ability bands is part of the core options system in 13 schools (14.77%). Pupils can either

TABLE 43: PROPORTIONS OF CURRICULUM TIME ALLOCATED TO SUGGESTED CORE OPTION SUBJECTS. SAMPLE = 24 SCHOOLS

%	NUMBER OF SCHOOLS
10	1
12	1
22	1
30	4
33	2
34	1
37	2
40	8
45	1
48	1
50	2

be issued with different options lists depending on their ability, or their access to certain option blocks can be restricted, or they can be offered a 'negative option', e.g. the choice between French and Social Studies in the Language option block.

FREE OPTIONS

All schools allow the remaining portion of time that is not covered by core and core options to be used by pupils from 'free' (or, more accurately, guided) options. Within the constraints of providing a balanced curriculum, pupils can select subjects they will need to enable them to meet career ambitions or to follow particular interests. The proportion of time allocated to the free options ranges from 10% to 71%, with an average of 35.09% for the 88 schools in the sample. The range of percentages and the number of schools in each is shown in Table 44.

TABLE 44: PROPORTIONS OF CURRICULUM TIME ALLOCATED TO FREE OPTIONS SUBJECTS. SAMPLE = 88 SCHOOLS

%	NUMBER OF SCHOOLS
10	2
11	1
12	3
20	10
22	5
24	1
25	9
30	15
32	3
34	2
36	1
37	4
40	7
45	2
50	13
54	1
57	2
60	4
62	2
71	1

OPTION BLOCKS

The number of examinations taken by pupils is directly linked to the number of option blocks within the options system. These are shown in Table 45.

TABLE 45: THE NUMBER OF BLOCKS WITHIN THE OPTION SYSTEM. SAMPLE = 88 SCHOOLS

NUMBER OF BLOCKS	NUMBER OF SCHOOLS	%
4	1	1.13
5	49	55.68
6	37	42.04
7	1	1.13

SUMMARY OF CURRICULUM TIME

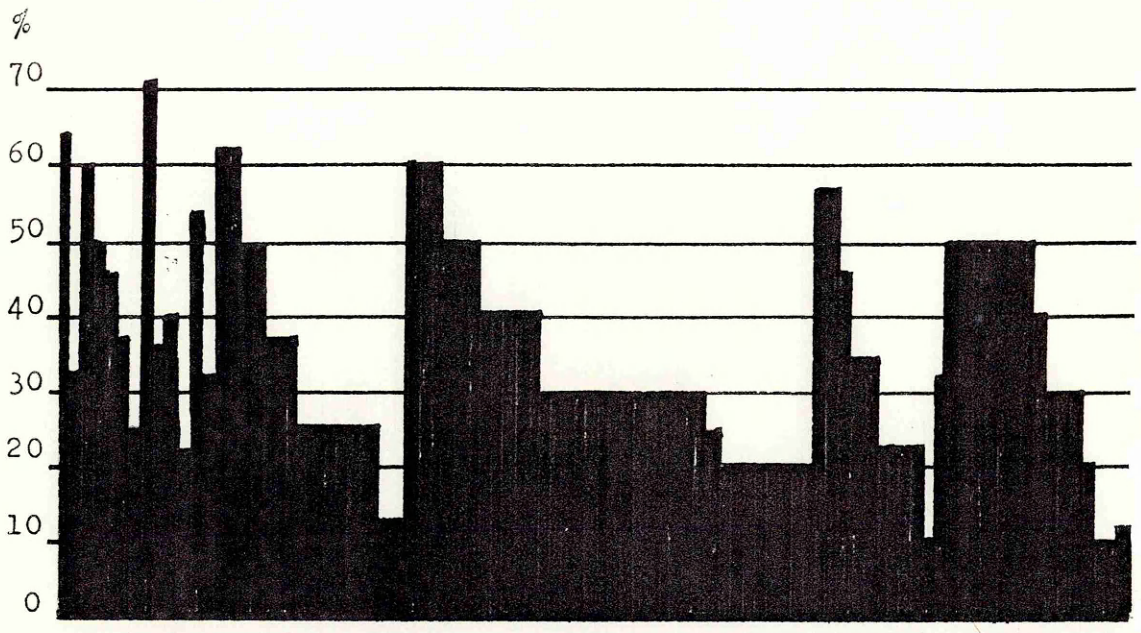
The inter-relationship between time allocated to core and to option subjects in 88 schools is shown in Table 46. There are 37 different patterns with 15 schools opting for one consisting of 40% core, 30% core option and 30% free option time. A summary of the 4th and 5th year core subjects and areas of option study is shown in Table 47.

MULTI-FACULTY OPTION BLOCKS

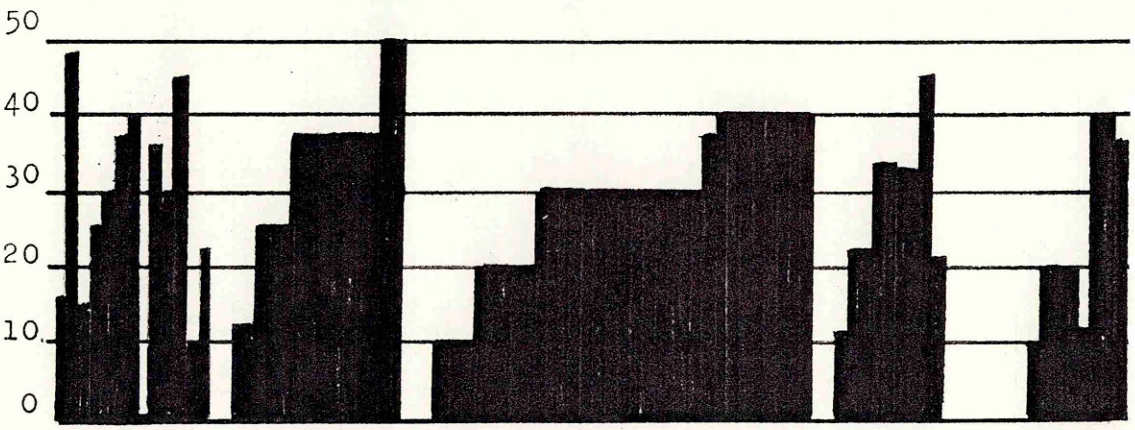
The task of effectively distributing subjects to the multi-faculty option blocks and of estimating the number of teaching groups for each subject is a major undertaking in all schools. All subjects in one option block are taught during the same timetable period. Faculty option blocks spread all pupils in one year over the whole range of facilities within the faculty. The multi-faculty option blocks spread all pupils in one year over the whole range of facilities within the school.

The compilation of teaching groups can be achieved by allowing pupils free choice to specify their option requirements. All subjects are considered of equal importance and there is no competition between faculties. The total number of applicants for each subject is then made into viable teaching groups and each group is matched to specialist accommodation and teacher. The difficult task of making option blocks accommodate requests by pupils is undertaken by 3 schools (3.40%) - each with a relatively low school population.

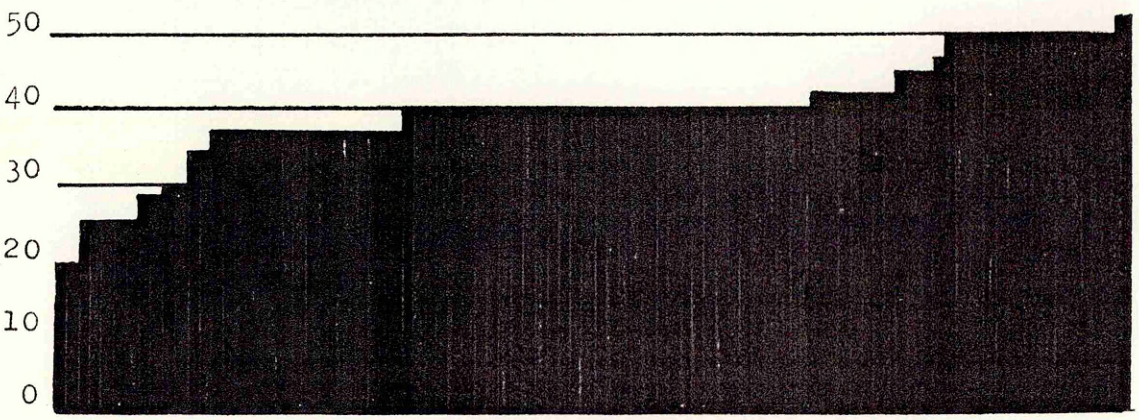
TABLE 46: PROPORTIONS OF CURRICULUM TIME ALLOCATED TO CORE AND OPTIONS SUBJECTS IN THE 4th AND 5th YEARS. SAMPLE = 88 SCHOOLS



FREE OR GUIDED OPTIONS



IMPOSED AND SUGGESTED OPTIONS



CORE SUBJECTS

TABLE 47: SUMMARY OF 4th and 5th YEAR CORE SUBJECTS AND AREAS OF OPTION STUDY

CORE (Range 20% - 52%)

ENGLISH	88 SCHOOLS	100.00%
MATHEMATICS	88	100.00%
PE / GAMES	73	82.95%
CAREERS	53	60.22%
PERSONAL DEVELOPMENT	71	80.68%
EUROPEAN STUDIES	1	1.13%

CORE OPTIONS (Range 10% - 50%)

	IMPOSED		SUGGESTED		TOTALS	
	49 Schools		24 Schools			
SCIENCE	49 SCHOOLS	55.68%	24 SCHOOLS	27.27%	73 Schools	82.95%
LANGUAGES	9	10.22%	12	13.63%	21	23.86%
HUMANITIES	35	39.77%	22	25.00%	57	64.77%
CRAFT/CREATIVE	33	37.50%	20	22.72%	53	60.22%

FREE OPTIONS (Range 10% - 71%)

88 Schools

The more usual system is for schools to make up option blocks which are composed of subjects which experience has suggested are likely to be required by the particular social and educational mix of the pupils. The findings from provisional and preliminary surveys conducted in the third year are of value. Estimations by teachers of the likely examination attainments of pupils can be used to produce examination and non-examination teaching sets.

If an offered subject is under-subscribed, then the school can withdraw it from the option and invoke the reserve subject from the pupil's original option list. If the subject is over-subscribed, then the school can duplicate the subject within the option if suitable accommodation and specialist teachers are available. The over-subscription of practical subjects creates special problems since the provision of specialist accommodation may not be as readily available as with classroom-based subjects.

This is particulary so where the provision of specialist accommodation has not kept pace with the increase in the school population or where there has been an increase in the popularity of demand for practical subjects. Such an increase can be partly attributed to:

a) the composition of academic faculty core options in which alternative practical subjects are included,

b) the relative freedom of choice the free options system allows, and

c) the less than strict interpretation of the option rules

regarding the necessity for a balanced education in the areas of knowledge relating to the Sciences, Languages and the Humanities.

THE BALANCED CURRICULUM

A study of the distribution of option choices will illustrate the degree to which schools ensure that all pupils receive a balanced education. It will also indicate how pupils of differing abilities, through their option choices, place different values on the various areas of study. It could also show, by inference, how far parents and schools accept and condone any modifications there may be to the principle of a balanced curriculum for all pupils.

Within the Essex comprehensive schools collectively, the three academic faculties are responsible for the sciences, Physics, Chemistry and Biology (with some General Science for slow learners), the languages, French, German, Italian, Spanish, Russian and Latin and the humanities, Geography, History, Religious Education, Social Science, Sociology and European Studies.

True faculties of Craft/Creative Studies, each with its own Head of Faculty, are in existence in 12 schools (13.33%). Other schools compile Craft/Creative option lists from an amalgam of subjects taught in separate Departments. The simplistic definition, generally accepted by practising teachers, is that Craft subjects refer to those taught in the school workshops and

in the Domestic Science rooms, while Creative subjects refer to Art, Music, Drama, Dance and Media Studies. The description of work done in the school workshops is met by one or more of the terms - Aesthetic, Art, Craft, Creative, Design, Practical, Recreational, Technical, Technology and Vocational. A total of 21 separate titles is needed to describe the work done in the Craft Departments in the 90 schools. Craft/Creative Studies is the most popular title and Vocational Studies the least accurate.

Subjects taught in the Commerce Departments must be added to the list of options. They include Typing, Office Practice, Economics and Accounts. All other subjects offered in the option blocks are linked with courses for slow learners and include the negative options used to balance the language option.

To illustrate to what extent schools comply with their own options directives and how this affects the provision of balanced curricula, 3 schools are examined in greater detail. Each school is from the medium population range of 1100 to 1400 pupils; each commenced comprehensive education during the period 1969 to 1973; all have mixed ability intake procedures and the statistics refer to all 4th year pupils in the school year 1981 - 1982, a total of 624 pupils.

SCHOOL 'A'

PRE-COMPREHENSIVE STATUS: village secondary modern.

COMPREHENSIVE CATCHMENT AREA: local rural areas plus intake from surrounding urban areas.

PRESENTATION OF OPTIONS: five multi-faculty option lists with one selection to be made from each list.

CONSTRAINTS: 1 language (except for a small number of less able pupils), 1 Science and 1 option from Arts and Crafts which include Art, Technical, Domestic and Commercial subjects.

FREE OPTIONS: Two.

DEGREE OF COMPLIANCE WITH OPTIONS INSTRUCTIONS: 77.83%.

NUMBER OF PUPILS WITH BALANCED CURRICULUM: 43.24%.

SCHOOL 'B'

PRE-COMPREHENSIVE STATUS: small town selective secondary technical.

COMPREHENSIVE CATCHMENT AREA: all of town plus surrounding rural and urban areas.

PRESENTATION OF OPTIONS: six multi-faculty option lists with one selection to be made from each list.

CONSTRAINTS: 1 Science subject must be selected.

FREE OPTIONS: Five - 'which are best suited to the interests and abilities of pupils'.

DEGREE OF COMPLIANCE WITH OPTIONS INSTRUCTIONS: 97.15%.

NUMBER OF PUPILS WITH BALANCED CURRICULUM: 33.64%.

SCHOOL 'C'

PURPOSE-BUILT COMPREHENSIVE SCHOOL.

COMPREHENSIVE CATCHMENT AREA: entire large town.

PRESENTATION OF OPTIONS: all option subjects listed under Faculty headings

CONSTRAINTS: no more than three subjects to be selected from any faculty.

FREE OPTIONS: pupils to select 2 or 3 essential subjects and 3 or 2 other subjects.

DEGREE OF COMPLIANCE WITH OPTIONS INSTRUCTIONS: 95.39%.

NUMBER OF PUPILS WITH BALANCED CURRICULUM: 10.59%.

Table 48 summarises the take-up by pupils of Faculty and Departmental options.

TABLE 48: DEGREE OF USE OF FACULTIES BY SCHOOLS 'A', 'B' AND 'C'. 1981-82. SAMPLE 613 4th YEAR PUPILS.

	SCHOOLS		
	'A'	*'B'*	*'C'*
FACULTY	*%*	*%*	*%*
SCIENCE	*100.00*	*97.15*	*82.02*
LANGUAGES	*90.81*	*54.40*	*38.24*
HUMANITIES	*65.40*	*87.20*	*82.48*
CRAFT/CREATIVE	*78.91*	*100.00*	*70.96*
COMMERCE	*27.56*	*50.71*	*48.84*
ALL OTHERS	*9.18*	*20.37*	
BALANCED CURRICULA	*43.24*	*33.64*	*10.59*

The nominal decision by schools to provide a balanced curriculum which includes Science, Languages, Humanities and Craft/Creative subjects for all pupils can be challenged by pupils and parents and even by subject teachers and those responsible for careers advice. Pupils with high ability in English and Mathematics, and those who are responsible for advising them, may consider

that the opportunity offered in schools to study a high-status specialist academic curriculum outweighs the advantage of a balanced curriculum which could include subjects that are not wanted for examination, career or leisure purposes. Pupils with low ability in academic subjects, and those who advise them, may see that practical subjects offer the greater likelihood of examination success and may well be the means of pupils obtaining skills which will be of use in future employment or in recreational activities.

Thus, pupils with high or low academic abilities, with the support of parents and the connivance of schools, take a realistic view of what the schools can offer during the 4th and 5th years and construct personal curricula composed of subjects that are meaningful to the pupils.

Table 49 shows the results of compromises that were reached in School 'A' following discussions by all concerned with the final selection of options. The statistics cover the four school years from 1978 - 1979 to 1981 - 1982 and refer to all of the 724 fourth year pupils who each had five option choices.

The statistics show the growth in the number of requests for Science, Language and Humanities options, the corresponding decline in requests for Craft, Creative and Commerce options and the virtual eradication of the compensatory 'negative option' from the option lists. A parallel pattern of growth and decline in the number of pupils using the facilities of Faculties and Departments emphasises this trend.

TABLE 49: THE BALANCED CURRICULUM: EXAMPLE OF THE DISTRIBUTION OF OPTION CHOICES BETWEEN FACULTIES: YEARS 1978 - 1981. SAMPLE = 724 PUPILS EACH WITH 5 OPTIONS.

	YEAR	SCIENCE	LANGUAGES	HUMAN/IES	CRAFT/ CREATIVE	COMMERCE	OTHERS
No. of Options	1978	199	213	107	224	70	97
	1979	218	219	113	207	62	71
	1980	252	203	113	182	84	61
	1981	274	235	139	207	53	17
% of Total	1978	21.86	23.40	11.75	24.60	7.69	10.65
	1979	24.49	24.60	12.69	23.25	6.96	7.97
	1980	28.15	22.68	12.62	20.33	9.38	6.81
	1981	29.62	25.40	15.02	22.37	5.72	1.83
No. of Pupils	1978	140	144	97	154	56	45
	1979	137	151	101	141	48	31
	1980	156	155	98	134	64	33
	1981	185	168	121	146	51	17
% of Total	1978	76.92	79.12	53.29	84.61	30.76	24.72
	1979	76.96	84.83	56.74	79.21	26.96	17.40
	1980	87.15	86.59	54.74	74.86	35.75	18.43
	1981	100.00	90.81	65.40	78.91	27.56	9.18

No. of 4th. Year Pupils	1978	182	Total Options	1978	910	Balanced Courses 1978 67 = 36.81%
	1979	178		1979	890	1979 60 = 33.70%
	1980	179		1980	895	1980 53 = 29.60%
	1981	185		1981	925	1981 80 = 43.24%

A major contributory factor to this trend, and also to much of the increase in the number of balanced courses, is the implementation in 1981 of the school's policy statement that every pupil must study at least one Science subject. Such a decision effectively illustrates that certain facilities must be available before any implementation can be entirely successful. These are:

a) sufficient specialist teachers,

b) sufficient specialist rooms,

c) an adequate provision of curriculum time, and

d) the ability and willingness of Faculty staff to prepare and teach such a variety of courses that all pupils, whatever their ability, will be involved in the study of Faculty subjects.

Whether the adequate provision of resources will allow this school to extend the core-options to other Faculties is a matter of conjecture and must be based on long-term predictions and estimates. However, any decision can have a profound effect on other areas of study in the school. The provision of specialist rooms involves years of planning and building and the total cost reduces the sum available for building programmes for other Faculties within the school. The provision of specialist teachers is dependent on many factors external to the school and is often only successful within individual schools if appointments to new positions are linked with promotion to graded posts. Both factors can reduce the possibility of expansion by other Faculties and, in extreme but recorded instances, can lead to the reduction or even total withdrawal of low status subjects from the curriculum.

The statistics from Table 49 are reproduced in Tables 50, 51, 52 and 53 to show graphically the association between abilities in English and Mathematics and the selection of academic and practical options.

When the Craft, Creative and Commerce subjects are consolidated into one option, as required for selection purposes in School 'A', the cumulative option choices, shown in Table 54 amplify the distinctive correlation pattern.

THE CRAFT/CREATIVE OPTION

The multiplicity of titles used to describe the subjects taught in the Craft/Creative option blocks are the cause of much of the misunderstanding and misinformation that is prevalent when option choices are being considered. Two interlinking factors have contributed to this profusion of titles. These are:

a) the general reducation of class sizes in schools, and
b) the introduction of the inter-departmental carousels whereby Craft subjects, traditionally taught to boys or girls, are now taught to boys and girls.

Historically, Manual Training was taught to the boys' half of a class of 40 pupils while girls received training in Laundry and Cookery, or, in the case of single sex schools, a class of 40 boys would be taught in a double Manual Training Centre. The system of instruction used, whereby all pupils undertook the

TABLE 50: THE ASSOCIATION BETWEEN ABILITY SETTING IN ENGLISH AND MATHEMATICS AND THE SELECTION OF OPTIONS. 1978.

SCHOOL 'A'. SAMPLE = 182 PUPILS.

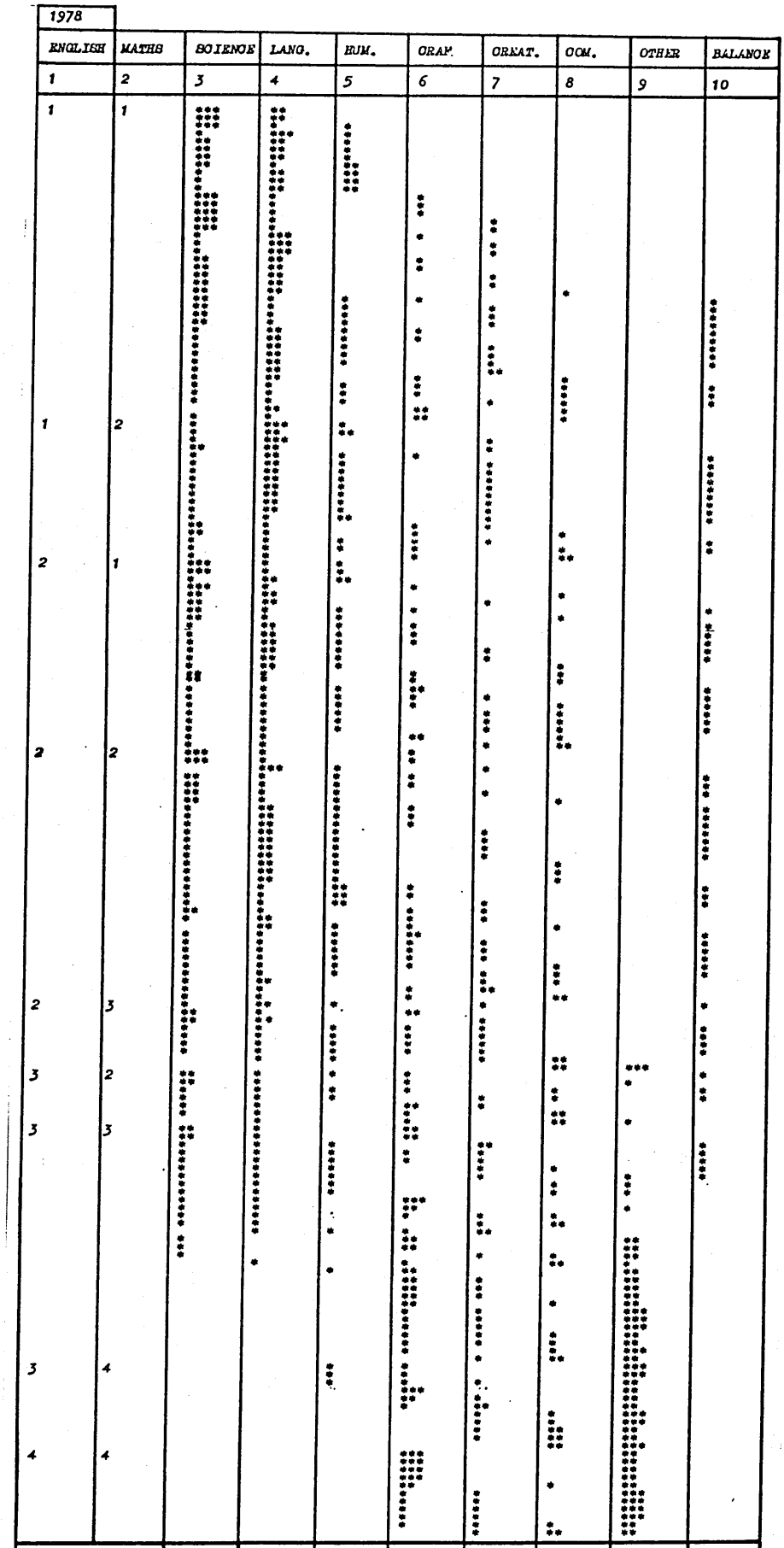


TABLE 51: THE ASSOCIATION BETWEEN ABILITY SETTING IN ENGLISH AND MATHEMATICS AND THE SELECTION OF OPTIONS. 1979.

SCHOOL 'A'. SAMPLE = 178 PUPILS.

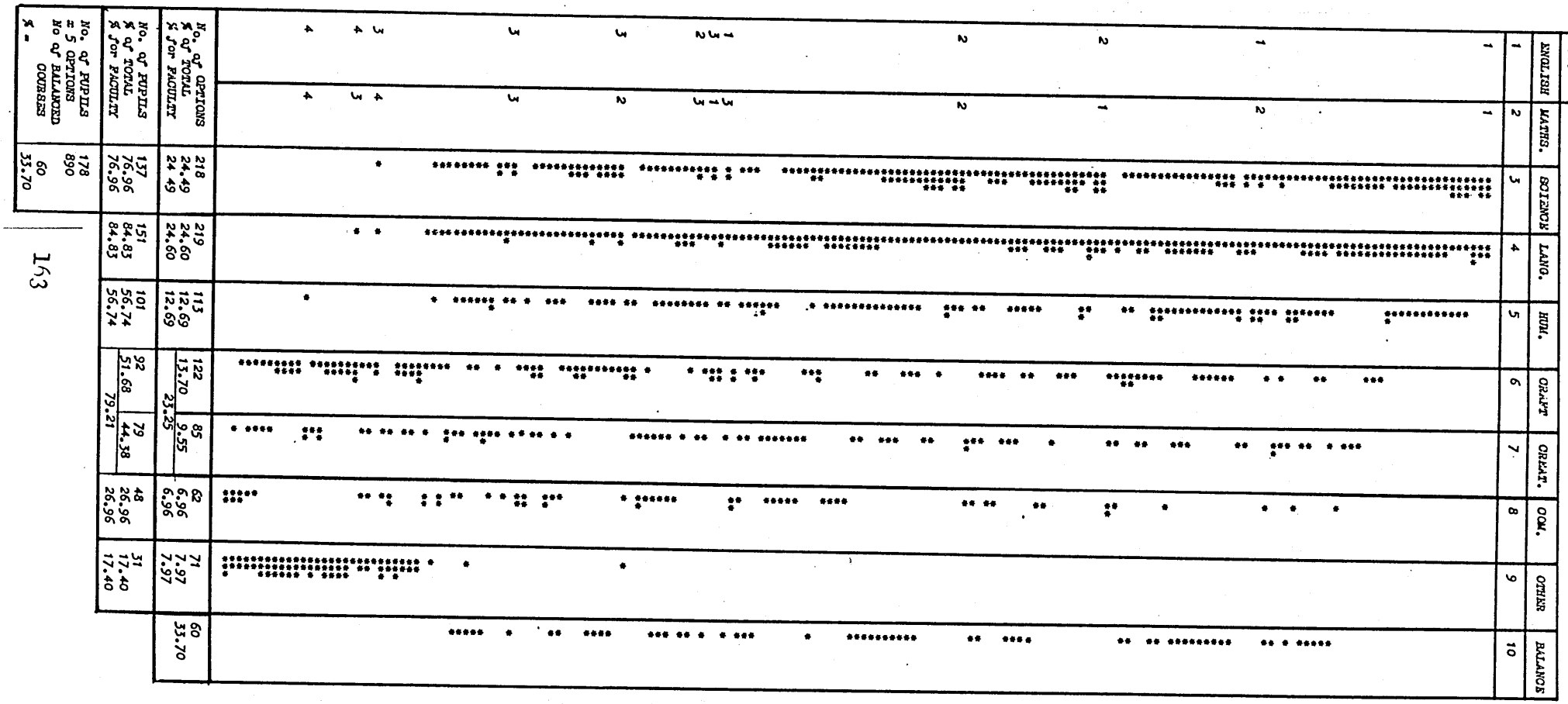


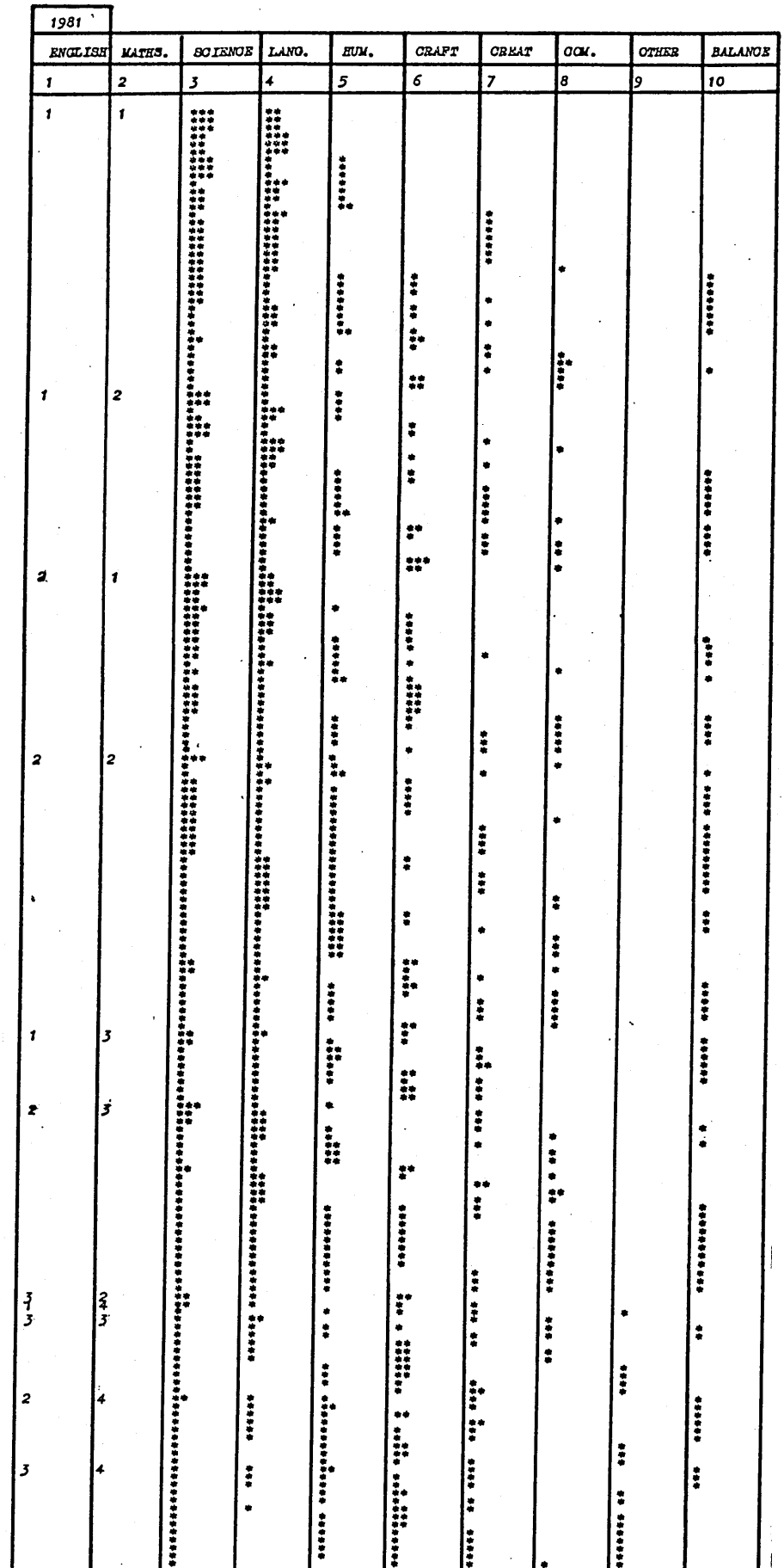
TABLE 52: THE ASSOCIATION BETWEEN ABILITY SETTING IN ENGLISH AND MATHEMATICS AND THE SELECTION OF OPTIONS. 1980.

SCHOOL 'A'. SAMPLE = 179 PUPILS.

1980									
ENGLISH	MATHS.	SCIENCE	LANG.	HUM.	CRAFT	CREAT.	COM.	OTHER	BALANCE
1	2	3	4	5	6	7	8	9	10
No. of OPTIONS		252	203	113	100	82	84	61	53
% of TOTAL		28.15	22.68	12.62	11.17	9.21	9.38	6.81	29.60
% for FACULTY		28.15	22.68	12.62	20.33		9.38	6.81	
No. of PUPILS		156	155	98	82	78	64	33	
% of TOTAL		87.15	86.59	54.74	45.81	43.57	35.75	18.43	
% for FACULTY		87.15	86.59	54.74	74.86		35.75	18.43	
No. of PUPILS x 5 OPTIONS		179 895							
No. of BALANCED COURSES		53							
% -		29.60.							

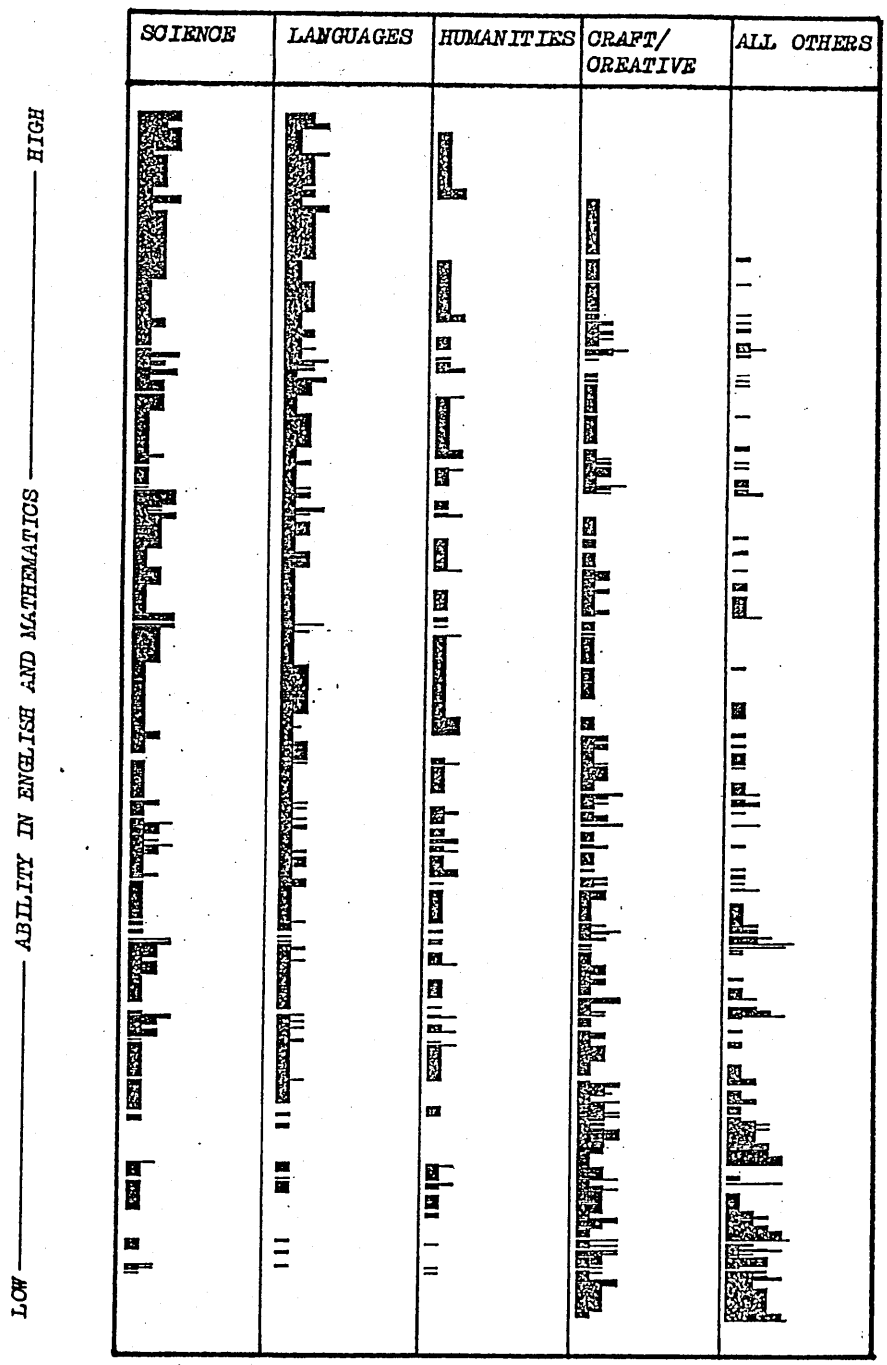
TABLE 53: THE ASSOCIATION BETWEEN ABILITY SETTING IN ENGLISH AND MATHEMATICS AND THE SELECTION OF OPTIONS. 1981.

SCHOOL 'A'. SAMPLE = 185 PUPILS



1981									
ENGLISH	MATHS.	SCIENCE	LANG.	HUM.	CRAFT	CREAT	COM.	OTHER	BALANCE
1	2	3	4	5	6	7	8	9	10
No. of OPTIONS		274	235	139	124	83	53	17	80
% of TOTAL		29.62	25.40	15.02	13.40	8.97	5.72	1.83	43.24
% for FACULTY		29.62	25.40	15.02	22.37		5.72	1.83	
No. of PUPILS		185	168	121	93	79	51	17	
% of TOTAL		100.00	90.81	65.40	50.27	42.70	27.56	9.18	
% for FACULTY		100.00	90.81	65.40	78.91		27.56	9.18	
No. of PUPILS		185							
x 5 OPTIONS		925							
No. of BALANCED COURSES		80							
% =		43.24							

TABLE 54: REPRESENTATION OF 3620 OPTION CHOICES BY 724 4th YEAR PUPILS IN SCHOOL 'A' DURING YEARS 1978 - 1981.



making of identical items, was manageable in workshops equipped for 20 pupils.(1)

With the gradual reduction in the numbers of pupils in classrooms, the half classes of less than 20 pupils for practical subjects left the specialist rooms underused. To resolve this situation two classes were amalgamated for one practical session and the pupils were divided into three groups. Where the traditional Crafts of Woodwork and Metalwork were taught in boys' schools, Technical Drawing could be added as a subject in its own right. All workshop places could be kept occupied and any overspill could be taught Technical Drawing in a normal classroom that doubled as a Drawing Office. This carousel within the workshops allowed Craft courses to be given to all boys during their school career and had the added attraction of reducing the number of specialist teachers required to teach two classes from four to three teachers. At the same time it created a precedent for larger numbers of pupils in Technical Drawing classes - a bias that persists today.(2)

The interchange of boys' and girls' Crafts that was gradually introduced after 1945 became more rapid with the reorganisation of schools for comprehensive education. Domestic Science subjects were included in the Craft carousels. Prompted by the belief that Technical Drawing could be taught successfully to 'double half

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1. 83 years later, and with Craft being more individualistic in character, the most recently completed comprehensive school in Essex has workshops built and equipped for 20 pupils.
2. A class of 31 pupils is recorded in a returned questionnaire.

classes', Art Departments and Art subjects were included in the expanded Craft/Creative carousels. It was not long before a much wider range of activities came to be considered desirable (essential even) in a creative education. Music, Drama and Dance were added and, more recently, Media Studies have become part of the Craft/Creative/Aesthetic option list that is included in the prospectuses of many schools.

To add to the confusion, one in five of Essex comprehensive schools now includes academic subjects in the compulsory core Craft/Creative option.

Pupils of high academic ability are provided with the opportunity to opt out of a system that according to the regulations of the schools concerned, makes the study of a Craft/Creative subject compulsory. Estimates based on the published school populations for 1983 indicate that one-quarter of all pupils considering their options for the 4th and 5th years could have been affected by this opting-out procedure.(1) Craft Departments in these schools are, therefore, in competition, not only with Creative Departments, but with all other Departments in the school, even in the curriculum slot which has been allocated to them.

To many Craft teachers there can be no surer way of lowering or keeping lowered the status of their subject in the eyes of

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1. The estimate is 4,600 pupils from a total year population of 19,000. This is 24.21%.

employers, non-craft teachers, parents and pupils - particularly those pupils with high academic ability. It would appear that the values that are nurtured by education through the use of materials and the belief that such an education forms an essential part of every child's life count for little in these schools. Yet, as Barnes states,

> 'no degree of academic achievement will counterbalance the handicap of practical illiteracy.' (1)

The composition of the Craft/Creative core options in relation to the curricula patterns for all 88schools currently offering 4th and 5th year courses is outlined in Table 55.

The historic link between Workshop based and Domestic based courses not only flourishes in the carousels in the Lower Schools, but remains unbroken to comprise the Craft element in the 44 schools where there are core options in Craft/Creative subjects.(2) Together, the Craft and Domestic Science Departments account for 66.18% of all courses offered in the Craft/Creative core options. The Creative elements of the options make up one quarter of the courses.

The non-Craft/Creative subjects account for 1 in every 12 courses offered in the Craft/Creative option. The disposition of these, in relation to the size of school populations, is shown in Table 56. The introduction of academic subjects into the Craft/Creative option is so significant when the status of these

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1. BARNES, R.W. (1974) Essex Education Nov. 1974 p.35.

2. Both departments are also represented in the remaining 44 schools where there are free options and multi-departmental or Faculty option lists.

TABLE 55: THE CRAFT/CREATIVE CORE OPTIONS WITHIN THE FRAMEWORK OF CURRICULA PATTERNS

4TH and 5TH YEAR COURSES — 88 — CURRICULA

CORE OPTIONS 73 | ALL FREE OPTIONS 15 — OPTIONS

Science 73
Languages 21
Humanities 57
CRAFT/CREATIVE 53

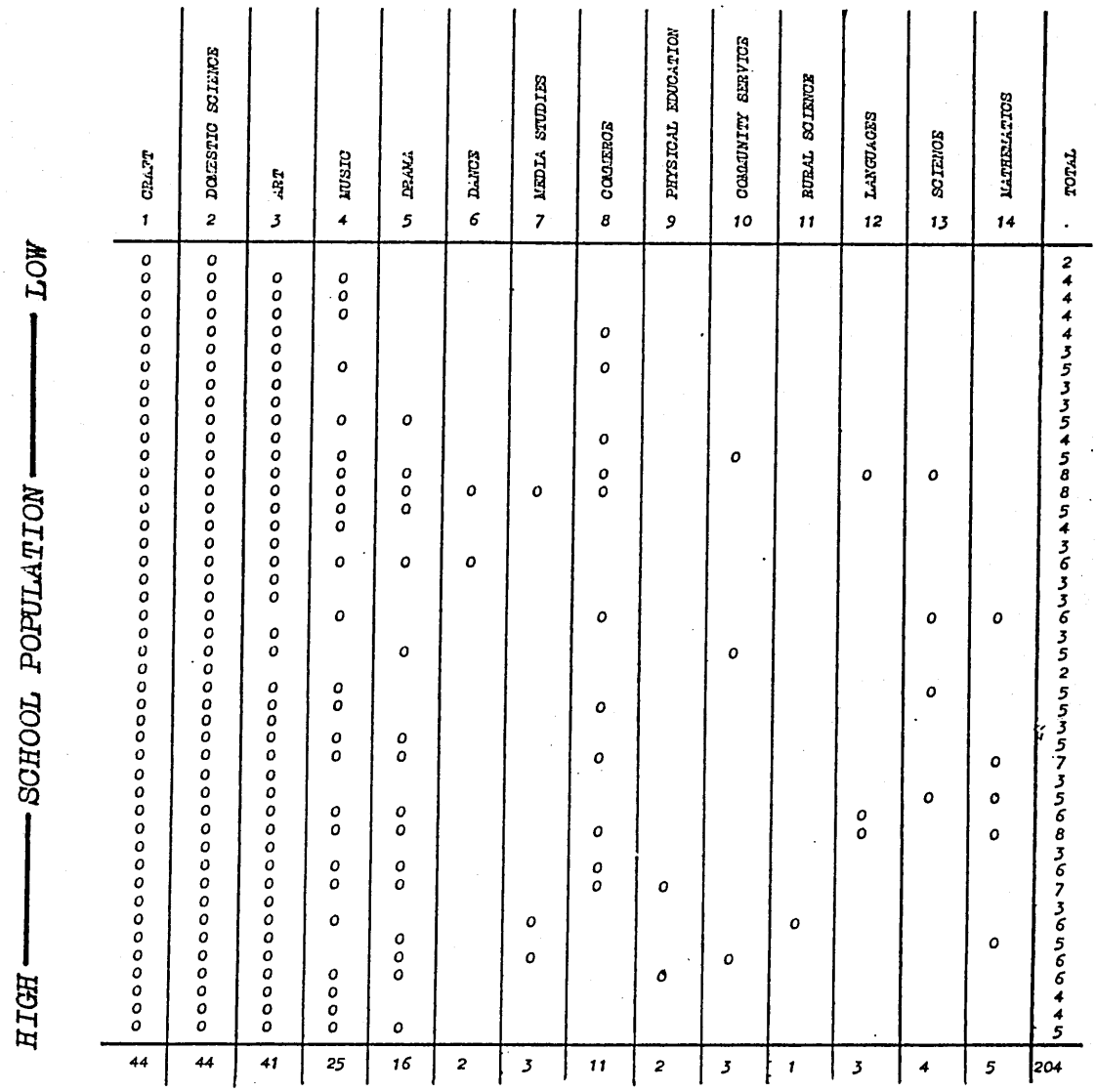
MULTI CRAFT 44 | MULTI FACULTY 9 — OPTION BLOCKS

CRAFT | CREATIVE | NON CRAFT / CREATIVE — CRAFT/CREATIVE

WORKSHOP BASED	DOMESTIC BASED	ART	MUSIC	DRAMA	DANCE	MEDIA STUDIES	COMMERCE	PHYSICAL EDUCATION	COMMUNITY SERVICE	RURAL SCIENCE	LANGUAGES	SCIENCE	MATHEMATICS	OPTION BLOCK SUBJECTS
44	44	41	25	16	2	3	11	2	3	1	3	4	5	SCHOOLS
100.	100.	93.18	56.81	36.36	4.54	6.81	25.00	4.54	6.81	2.27	6.81	9.09	11.36	% OF CRAFT/ CREATIVE BLOCK
153	123	61	25	16	2	3	13	2	3	2	4	4	6	COURSES
36.69	29.49	14.62	5.99	3.83	0.47	0.71	3.11	0.47	0.71	0.47	0.95	0.95	1.43	% OF CRAFT/ CREATIVE BLOCK
66.18		25.65					8.15							% FOR GROUP

subjects if being considered, that a search has been made for a common factor which may explain why the opting-out device is used in one quarter of all comprehensive schools in Essex.

TABLE 56: SUBJECTS INCLUDED IN THE CRAFT/CREATIVE CORE OPTION BLOCK LISTED IN ORDER OF SIZE OF SCHOOL.
SAMPLE = 44 SCHOOLS



Such considerations as:

a) the residual ethos of the original school,

b) the geographical location of the school,

c) the social mix of the catchment area,

d) the bias towards academic subjects by Headteachers with high academic qualifications, and

e) the administrative difference relating to the number of option choices,

do not appear to affect the decision. However, as Table 57 indicates, there is a tendency for the opting-out procedure to be adopted in schools with high populations: 40% of schools in this group being above the third quartile of the sample of schools in the survey.

TABLE 57: SCHOOLS INCLUDING ACADEMIC SUBJECTS IN CRAFT/CREATIVE OPTION BLOCKS. SAMPLE = 20 SCHOOLS.

POPULATION OF SCHOOLS	*NUMBER OF SCHOOLS IN SURVEY*	*NUMBER OF SCHOOLS INCLUDING ACADEMIC SUBJECTS*	*% OF GROUP*
– 500	2	0	0
501 – 750	7	0	0
751 – 1000	17	3	17.64
1001 – 1250	28	6	21.42
1251 – 1500	23	8	34.78
1501 – 1750	9	3	33.33
+ 1750	2	0	0
TOTAL	88	20	

SUMMARY

The 4th and 5th year curriculum is divided into core, core-option and free option sections in proportions ranging from 10% to 70% within the 90 schools. The option system allows pupils to have some say in compiling their personal timetables within the constraints of the need for a balanced curriculum.

The selection of a pupil's optional subjects should be based on informed choices made by pupils and parents. The quantity and quality of information provided by schools is not always adequate for this to be the case.

The composition of the option blocks and the strategies employed by schools enable academically able pupils to have a predominantly academic education and the less academically able pupils to have an education that is biased towards practical subjects. Among techniques used to bring this about are the inclusion of academic subjects in a Craft/Creative option block and the use of a negative option. Both strategies contribute to (a) pupils receiving a curriculum that is not educationally balanced and (b) teaching groups in practical subjects having a disproportionate number of average and below average pupils in them.

8. CRAFT SUBJECTS IN CRAFT OPTIONS

CRAFT COURSES

The success of many of the 4th and 5th year courses depends, to a large extent, on the foundation studies in the Lower School. In the case of Craft courses, much of the previous study is based on a sampling system that allows a wide but shallow investigation into a variety of materials, tools and processes.

Parents seeking guidance to enable them to weigh up the balance of Craft studies as taught in a comprehensive school can base their decisions on the sort of coursework undertaken by pupils during the limited time that was available for its study in the Lower School. If the coursework was formal in character, then all pupils in a class would have been doing similar teacher-oriented exercises in order to gain expertise in the safe use of tools and equipment. The finished product would have done much to encourage the view that Craft is, in fact, pre-trade instruction.

Alternatively, if the workshop time was used by pupils on individual design-based pupil-oriented exercises, then the quality of the finished work might well have given the impression that Craft education is little more than a pleasant artistic activity.

In neither case does this consideration of the subject reflect the amount of mental activity required to produce the practical result.

Allocations of time to pupils who are permitted to study Craft in the Lower School vary considerably from school to school, from band to band and between boys and girls. As the research has shown (see page131) 5 schools (5.55%) allocate equal time to all boys and girls to study Craft during the three year span of the Lower School curriculum. The average proportion of total curriculum time for the study of Craft in these five schools is 5.0%. The average annual allocation of time for each option in the 4th and 5th years in these five schools is 12.00% (with a range of from 10.0% to 16.0%).[1] Expressed as an approximate comparison, the most generous allocation of time for the study of all Workshop subjects in the Lower School is equivalent to the time a 4th year pupil will have to study any one option subject.

One advantage of the comprehensive pack of options information is that it can provide the Head of Department with the opportunity to explain to pupils and parents how the different allocations of time in the Lower and Upper schools will affect the depth of study of subjects. At the same time, he can also express the general aims of his Department, give details of each course of study, state the educational values of the courses and indicate the relevance of examination success to Further Education courses or entrance to careers.

Heads of Craft Departments in Essex comprehensive schools are responsible for the organisation and supervision of teaching of over 700 Workshop-based courses for 4th and 5th year pupils.

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1. The average allocation of time for English in the five schools is 15.0%.

These are listed in order of frequency in Table 58 - the list being compiled from the most recent information provided to pupils and parents by the schools and by research questionnaires returned by Heads of Craft Departments.

TABLE 58: 4th and 5th YEAR COURSES SUPERVISED BY HEADS OF CRAFT DEPARTMENTS. SAMPLE = 88 SCHOOLS.

COURSE TITLES	No. OF COURSES	% OF TOTAL
WOODWORK	160	22.06
TECHNICAL DRAWING	153	21.10
METALWORK	148	20.41
TECHNOLOGY	92	12.68
ENGINEERING	52	7.17
COMBINED MATERIALS	44	6.06
GRAPHIC COMMUNICATIONS	34	4.68
MOTOR VEHICLE STUDIES	29	4.00
REMEDIAL	4	0.55
HOME MANAGEMENT	4	0.55
BUILDING	1	0.13
LAPIDARY	1	0.13
MODEL MAKING	1	0.13
PAINTING AND DECORATING	1	0.13
RECREATIONAL	1	0.13
TOTAL	725	100 %

The majority of these courses (91.03%) follow syllabuses for the Certificate of Secondary Education, the General Certificate of Education and the 16+ Examination. The remaining 8.96% are specifically designed for slow learners or for pupils of all

abilities who wish to follow a Craft subject out of interest and without the constraints imposed by an examination syllabus.

Whereas most academic subjects are taught to streamed groups, the majority of Craft courses are taught to groups of mixed-ability pupils. It is not uncommon for a workshop class to consist of groups of pupils following different examination syllabuses as well, sometimes, as those working on non-examination projects.

The aim of teaching in all Craft subjects is to blend carefully the skills acquired in safe working practices with the awareness of the working properties of materials, and to apply this accumulated knowledge to the completion of a series of exercises, each graduated in difficulty. When not restricted by specific examination requirements, a more modern approach in the comprehensive school is to replace the graduated exercises with problem-solving activities.

The range of courses now available caters for the whole ability spectrum that should be present in a comprehensive school. The activities, whether formal or problem-solving, are pitched at all levels of thought and skill, from those of remedial pupil to those of the prospective 'A' level General Certificate of Education candidate.

Success at these different levels can be used by Craft teachers when making comparisons of status of courses within the subject and the status of the subject within the Department. The status

of the Department within the schools can be assessed by teachers, parents and employers by studying the content of the courses, the level of any examination taken and the value of these in relation to future Further Education and career requirements.

The 725 courses can be usefully grouped under the three traditional headings of Woodwork-based, Metalwork-based and Drawing-based studies together with the Integrated Studies courses. Integrating courses is the more modern approach to Craft and presupposes that the walls separating Craft subjects are removed. In the future, they may well be in reality removed.

Any estimate in the following sections about the views popularly held by parents are based on comments made by Heads of Departments and Craft teachers during the research visits to the 88 schools involved in this aspect of the enquiry.

WOODWORK BASED COURSES

Many parents assume that the Woodwork workshop is the only place where pupils are likely to come into close contact with the construction of furniture that is made in the traditional hand-crafted manner with the use of solid wood. This view is supported by displays of fine joinery and cabinet making during open evenings for parents and visitors. At the very least, it is thought, Woodwork skills can be put to good use in money-saving activities in and about the home. Woodwork examinations are considered to be virtually worthless since there are so few woodworking jobs available and so few other jobs which require a woodwork examination as a qualification for entry.

As Table 59 illustrates, examination courses account for nine out of ten of the courses offered.

TABLE 59: WOODWORK BASED COURSES

COURSE TITLE	EXAMINATION G.C.E	EXAMINATION C.S.E	NON-EXAM	TOTAL	%
WOODWORK	59	89	12	160	98.76
BUILDING		1		1	0.61
DECORATING		1		1	0.61
TOTAL	59	91	12	162	
%	36.41	56.17	7.40		100 %
EXAM TOTAL	150				
%	92.58				

The reality of the Woodwork courses is that, although traditional Craft is still taught in some workshops with traditions of very high standards of joinery, very few families are willing or able to finance the cost of providing solid timber for major hand-made items of furniture. School exhibitions of work show that, while smaller items of woodwork are constructed in the traditional manner, the majority of major cabinet items are constructed with modern man-made materials, using techniques of assembly that include few, if any, traditional jointing methods.

The coursework for Examination Boards requires pupils to have experience of modern constructional techniques involving man-made materials but the practical examinations are based, in the main, on the production of pieces of traditional joinery. Where a strong design element is included in the coursework and examinations, a pupil is required to take on the role of creative

designer as well as that of craftsman. He then has to produce finished items that fulfill the requirements of the design brief - a most telling method of evaluating a pupil's comprehension of the working characteristics of materials and of technical processes, as well as being a test of constructional skills.

Whereas the General Certificate of Education examinations cater for a theoretical approach to the subject, the approach required for the Certificate of Secondary Education is essentially a practical one, although both examinations have a compulsory theory examination which must be passed.

In the case of the Certificate of Secondary Education, all coursework, including notebooks and theory projects, can be included in the assessment of the examination mark. With so few constraints, the range of practical work undertaken as coursework is virtually limitless.

Examples of coursework include furniture made in the traditional way or using modern techniques; experiments with the old crafts of marquetry, veneering, woodcarving and upholstery; complicated and technically ambitious projects in musical instrument making and large constructions such as canoe making and boat building. For non-examination pupils there is a similar freedom of choice but without the pressure of having to complete a certain number of pieces of coursework in time for the visiting assessor to make his report. Pupils for these leisure courses, often girls, can come from any part of the ability range and they are encouraged to be as creative, inventive and ambitious as their interest and ability will allow.

Woodwork courses are also provided for pupils who come from remedial classes and they are encouraged to produce work of their own choice. Many prefer to work in small groups on community-based projects which supply the wants of their own school or, as one school did, to supply additional equipment and educational toys for the local primary school.

METALWORK BASED COURSES

The popular image of Metalwork, unlike that of Woodwork, is that all activities are vocationally useful. They will lead either directly to career or vocational qualifications or will be considered by prospective employers as useful acquisitions of skill, particularly for any of the metal-based trades and industries. It is also considered that study for examinations is worthwhile, but only if such study does not interfere with opportunities for apprenticeship.

The percentage of Metalwork based courses on offer, as shown in Table 60, is increased by the availability of specialist courses in Engineering for pupils of above average academic ability as well as courses in Motor Vehicle Studies which cater, but not exclusively, for pupils of average and below average ability.

Parents do not always appreciate that the subject, Metalwork, is in fact an amalgam of several metal crafts, some of which have been sampled in Lower School foundation courses - and involves working with many types of metal.

TABLE 60: METALWORK BASED COURSES

COURSE TITLE	EXAMINATION G.C.E	EXAMINATION C.S.E	NON-EXAM	TOTAL	%
METALWORK	56	78	14	148	64.62
ENGINEERING	28	23	1	52	22.70
MOTOR VEHICLE STUDIES	1	17	11	29	12.66
TOTAL	85	118	26	229	
%	37.11	51.52	11.35		100 %
EXAM TOTAL	203				
%	88.63				

FITTING, the basis of metalworking skills, is taught when working with steel in the Lower School foundation courses. It can develop in the 4th and 5th years into tool making and model engineering, with the use of machinery playing an increasingly important role.

TINSMITHING, the working with tinplate, makes practical use of geometrical developments in the production of functional containers. It can lead to an appreciation of the complex sheet metalworking processes that are undertaken in many industries, including motor-vehicle body work.

BEATEN OR HAMMERED METALWORK, also developed as Art Metalwork, Silversmithing and Jewellry Making in some schools, allows design

skills and creativity to flourish in the production of functional and decorative hand work in copper, brass, gilding metal and silver.

BLACKSMITHING allows pupils to have some control over the elements of air, fire and water when they convert mild steel and wrought iron into modern designs, using craft practices that have changed very little for generations.

CASTING now enjoys a higher status in Metalwork schemes since the development of special foundry equipment for schools, protective clothing and a strict code of safe working practices. The range of work in aluminium is extensive and varies from the production of components for Metalwork projects to experimental art forms, and extends to highly technical constructions associated with bell foundry work.

MACHINE WORK, in general Metalworking, can be used to make components in both ferrous and non-ferrous metals for toolmaking and model engineering and also to machine-finish the castings made in school.

The addition of such industrial processes as welding gives the activities of the Metalwork workshop real relevance to pupils who seek to find employment in any of the metalworking industries. Each of the school courses is capable of being developed, during tertiary education, into a body of knowledge and skills in its own right and of leading to vocational qualifications. This,

together with the high investment of capital to equip Metalwork workshops and the knowledge that pupils will have access to machines and equipment, gives a high status to the subject both within the school and within the Craft Departments.

The variety of general Metalwork examinations reflects the wide appeal of the subject to pupils of all abilities. Although some examinations have a major design component, the intractable nature of the materials used and the relatively short duration of the practical examination have a restricting effect on creativity. The practical examinations tend to be exercises in Fitting. The theory paper is compulsory and must be passed before a grade can be awarded.

Craft teachers state in discussions and returned questionnaires that school workshop populations in the 4th and 5th years contain a large proportion of slow-learners and remedial boys. This is attributed to:

a) negative options, whereby, for example, pupils are required to opt for a Language or a Craft,

b) a liberal, if not 'illegal', interpretation of the rules concerning the balanced curriculum,

c) a lack of suitable courses for these pupils in other Departments, and

d) the disruptive behaviour of many of these pupils in mixed-ability classes in academic subjects.

Metalwork teachers state, additionally, that general Metalwork non-examination courses have a particular appeal to slow-learners

and remedial boys. The reasons given by teachers are many and any one or more may account for the belief that, for a considerable proportion of boys in these groups, Metalwork is a high status and highly valued subject. Teachers state that for these boys:

1. success is assured because:
   a) with metal being so intractable, teachers are able to note potential errors in work before they can develop - which is harder with the more rapid processes involved in Woodworking,
   b) any errors that do occur can be readily and cheaply overcome by the simple replacement of parts, repair of damaged metal or slight modifications to the original design,
   c) as with all educational processes where physical skills are being acquired, errors and their correction are a normal part of the teaching programme and there is, therefore, no question of punishment for errors made,
   d) the problem of lack of perseverence is counterbalanced by selecting work that can be completed in a short period of time,
   e) lack of concentration is overcome by a normal working arrangement whereby large numbers of different tool operations are required for the work selected,
   f) the accepted methods of finishing metal enables some imperfections to be disguised, and
   g) there is normally visible evidence in every lesson that some progress has been made.

2. real work is undertaken in that:

   a) the boy and his friends appreciate the functional and decorative values of the completed pieces of work,

   b) all skills acquired can be put to use in the future employment likely to be sought by these pupils,

   c) theory lessons are relevant to the practical work in hand, and

   d) as exercises for the sake of the acquisition of skills are not given, coursework consists of completed work.

3. the metalwork workshop is unique because:

   a) there is unrestricted movement since machines and process areas are distributed about the room,

   b) there is access to expensive machinery and equipment,

   c) noise is part of the working environment,

   d) the strength of the boys can be challenged in many metalworking operations,

   e) there is a special fascination for boys when working with red hot metal in Blacksmithing, Casting, welding and brazing operations,

   f) the teacher is personally involved in problem-solving and can be seen as a skilled craftsman

   g) an acceptable social environment is created in the workshop where boys from all classes, with similar ages, abilities and attitudes meet and work together.(1)

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1. This is one reason why parents of boys with different abilities and attitudes often consider the subject unsuitable for their sons.

It is something of a paradox that boys who are a potential danger to others because of their frequent bouts of anti-social behaviour often find a refuge, equanimity and a degree of practical success in the one room in the school which contains the greatest potential dangers through its machinery and normal working processes.

ENGINEERING

The popular image parents have of the subject is related to the supposed vocational training that pupils will receive. In reality the average amount of school time that is allocated to this, or any other option, in one school year is approximately the same as working full time for two weeks in a factory or office. Parents do appreciate that the nationally accepted examination awards, by imposing a strict syllabus, should ensure that the essential body of knowledge and skills is adequately covered.

31 schools provide these specialist and high status courses for those pupils who have a natural feeling for precision engineering. As with all other Craft subjects, it is not regarded as a trade training programme within the school. It can provide pupils with a good basis for future training as tradesmen and technicians and can lead to professional qualifications. Engineering is intended to develop, not only craftsmanship and practical skill with hand and machine tools, but also the appreciation of quality and the need for accuracy, the knowledge of the use and limitations of materials and the self-discipline of logical thought and organisation.

Course content varies according to the syllabus of the Examination Board, but pupils who are accepted for engineering courses must have a good standard in English and Mathematics in addition to sound practical ability.[1] With up to 60% of examination marks being available for allocation to coursework, this becomes more structured than with General Metalworking courses. Much of the 4th year practical coursework is concentrated on engineering exercises that are designed to produce a high degree of accuracy in work done with hand and machine tools and a high grade of finish to the metal. A limited choice of work is then given to pupils in the 5th year when they are required to work on a major project which will be part of the assessment for the final examination. Theory is not only related to the skilled processes undertaken in the practical lessons, but also includes historic aspects of the subject, the development of machine tools, engineering design, measurement, inspection and costing.

MOTOR VEHICLE STUDIES

Instruction both in driving cars and riding two-wheeled vehicles has existed in Essex schools for over twenty years as an extra-curricula activity. The main factor leading to the inclusion of the much broader Motor Vehicle Studies as an option in the curriculum was the need to provide imaginative non-examination RoSLA [2] courses for those pupils who were affected by the change

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1. This will exclude many pupils who have not had the opportunity to develop practical skills in the Lower School.
2. The Raising of the School Leaving Age which became effective in the 1972 - 73 school year.

in legislation which required them to have a full five years of secondary education. Vehicle maintenance was relevant to pupils in this age at this time, since the Road Traffic Act permitted them to ride two-wheeled vehicles while still attending school and drive four-wheeled vehicles shortly after they were legally allowed to leave school.

With no Motor Vehicle workshops available and with little specialist equipment or tools, the success of any scheme depended (and still does to a great extent), not only on the enthusiasm and ability of Craft staff to teach the subject, but also on the enthusiasm and ability of staff, parents and pupils to provide the means for it to be taught. The popular image of the subject today fairly accurately reflects the reality of the situation in the 1970's. Metalwork workshops and project areas were inundated with teaching material that ranged from single components to complete working vehicles. The majority of those being taught came from the lower end of the range of academic ability.

Since the introduction of comprehensive education the body of knowledge suitable for school coursework has been codified. Suitable syllabuses for pupils of varying abilities have been produced by the Examining Boards of the Certificate of Secondary Education, the General Certificate of Education and the City and Guilds of London Institute. The subject remains popular, not only with pupils, but also with Headteachers and Directors of Studies who view it as a viable counterbalance to the new and more academic subjects being introduced into the option blocks.

There are now 14 schools with suitably equipped workshops for Motor Vehicle Studies, although four of the workshops are not in use. A further 15 schools teach the subject in the general Metalwork workshop or make use of the project area. 11 schools provide a Motor Vehicle Studies course specifically for those pupils who find the more academic work difficult and one school, which has a highly equipped workshop and a tightly structured course, limits applications for the admission to the course to those pupils 'who experience difficulties with manipulative skills.'

Altogether 18 schools follow examination syllabuses, frequently in conjunction with the Schools Traffic Education Programme. This scheme deals mainly with riding, care and maintenance of two-wheeled vehicles, the Road Traffic regulations and the law.

The raising of Motor Vehicle Studies to examination level has meant that written theory lessons are included in the coursework. Syllabuses consider the motor vehicle in a car owning society and deal, not only with every practical aspect of maintenance and servicing, but also with car design and safety, the history and development of motor vehicles and the obligations and responsiblities of drivers. The immediate reaction to the raising of the status of the subject to examination level was that remedial and slow-learner pupils did not opt for this subject. Such a reaction was welcome to many teachers who objected to the ever-increasing numbers of low ability boys who were being directed to these and other Craft courses, by those who were responsible for the planning of the balanced curriculum.

INTEGRATED STUDIES

These courses relate to all other Craft activities that can be undertaken in either Woodwork or Metalwork workshops or in the recently constructed workshops that have been specially designed to cater for multi-material studies. These activities can be classified at four levels, each with its own status within the Department and within the school. They are:

a) Combined Materials remedial courses,

b) Combined Materials leisure courses,

c) Combined Materials examination courses, and

d) Technology courses.

The demand for examination courses in Technology is reflected in Table 61 where it is shown that 61.90% of all courses relate to this level of the subject.

TABLE 61: INTEGRATED STUDIES COURSES

COURSE TITLE	EXAMINATION G.C.E	EXAMINATION C.S.E	NON-EXAM	TOTAL	%
COMBINED MATERIALS	19	21	15	55	37.41
TECHNOLOGY	48	43	1	92	62.58
TOTAL	67	64	16	147	
%	45.57	43.53	10.88		100 %
EXAM TOTAL	131				
%	89.10				

COMBINED MATERIALS REMEDIAL COURSES are taught in a carousel of subjects where the aim is, according to one prospectus,

'to provide modular courses to pupils with a practical and down to earth preparation for adult life in both work and at home.' The courses are particularly suitable for pupils who have limited powers of concentration and perseverence and are taught, as stated by one Head of Department, 'with patience and understanding'. Courses change each term and include the very basic principles of Woodwork, Metalwork, Motor Vehicle Studies and Household Maintenance. With pupils working in small groups rather than on individual projects, the courses have the added advantage of developing social contacts between the participants, who are often in need of having skills they possess acknowledged and appreciated by their peers.

COMBINED MATERIALS LEISURE COURSES are for boys and girls who use the option purely for Craft leisure activities. Based in the teacher's own workshop, the courses are designed to respond to any interest that the pupils may have in some aspect of Craft, whether it is newly acquired or a continuation of Lower School Craft work. The academic range of ability of the pupils can be wide, the content of the courses varied and the aims of the courses ambitious. The prospectus of one school states that 'the course gives an opportunity for would-be inventors or obsessive innovators to express their ideas. The teaching method is individual and, although less formal, is quite serious.'

COMBINED MATERIALS EXAMINATION COURSES involve modular studies in several crafts. They are taught, either in purpose-built workshops for multi-materials study, or, where these are not available, in several workshops in the Department. The concept

of multi-media studies had been discussed since the early days of Manual Training and single experimental dual-purpose workshops have been in existence in Essex for twenty-five years. The recent introduction of purpose-built suites of workshops, with each room designed for the teaching of several Crafts, has finally removed the physical barriers which have previously separated the teaching of traditional Craft subjects. The concept of multi-materials studies has been acknowledge by examination boards and 25 schools offer Combined Materials examination courses, even where purpose-built workshops are not available. One school, using existing individual Craft workshops, has announced that it has changed from teaching traditional Crafts as part of its previous Craft, Design and Technology programme to teaching modular studies within the framework of Combined Materials courses.

The imposition of Combined Materials studies on Craft Departments has not always been met with total enthusiasm by Craft teachers. In discussions with Heads of Departments and Craft teachers it was suggested that teachers:

a) need to have expertise in more than one Craft but that there are few retraining programmes available for them,

b) will have to adopt new teaching methods because of the greater number of demonstrations required in different materials,

c) feelthat no great depth of study can be achieved unless the time allocated for Craft is increased, and

d) see pupils being confused by the greater number of materials, tools and processes involved.

With regard to Workshop design, they foresee problems relating to:

a) the need to equip each Workshop for all Crafts for 20 pupils,

b) the thin distribution of machines for all Crafts, not only because of the cost involved, but because of the limitation of floor space,

c) the shortage of particular machines for specific operations during the course, and

d) the underuse of other machines.

Teachers suggest that parents and employers will have difficulty in understanding the aims and values of Combined Materials courses, which, at present, have a high content of creativity and a low volume of technology in them. The fact that 28% of Essex comprehensive schools teach Combined Materials examination courses indicates that steps are being taken to overcome these stated objections.

The coursework for the examination can account for up to 60% of the total marks available. Studies are made of the properties of wood, metal, plastics, ceramics, concrete and plaster, with emphasis being placed on design and problem solving in relation to functioning, aesthetics and methods of manufacture. Candidates are required to provide evidence of working with three different materials and this must be accompanied by a portfolio of designs and drawings relating to the practical work.

TECHNOLOGY is a generic term used to describe both the name of Craft Departments in some schools and the courses being taught in these Departments. Some confusion can arise when high status courses in Science-linked Technology are offered as a Craft option and taught in Craft Departments by Craft teachers.

There are fifty-two schools (59.09%) teaching Technology courses which seek to combine and extend the skills and knowledge acquired in Craft, Science and Mathematics. Depending on the facilities available and the commitment of teachers, the courses can be either Workshop or Laboratory based. The usual practice is for the teaching to be shared by both Craft and Science Departments.

Now that examination success in the subject can be used as a qualification for university entrance, schools take care to explain to parents, not only the nature of the syllabus, but the fact that the course is intended for boys and girls who have a strong background knowledge of Physics and Mathematics. The courses are gaining in popularity after initial setbacks caused by lack of finance, resistance of teachers and uncertainty of parents.

Technology, as defined in school prospectuses, is concerned with the identification of the needs of man and the ways in which these can be satisfied by the application of science to the use of natural resources and energy. No school prospectus mentions the need to approach technology through the skills traditionally

associated with school Crafts. Indeed, one school warns parents and pupils 'not to confuse Technology with a workshop subject such as Metalwork'.

The overall aim of Technology in schools is to help pupils become technologically literate. This means:

a) being aware of the change occuring in the world as a result of technological innovation,

b) appreciating the modern industrial scene,

c) learning the general principles of control systems and energy processes, and

d) being given the opportunity to participate in problem-solving activities where there are no right or wrong answers, but only good and poor solutions which individual pupils must decide between.

The subject can, therefore, attract to the workshops those pupils who would not normally select a Craft option and who, because of the banding system in the Lower School, may not have any previous workshop experiences.

Theoretical coursework includes the study of three of the following six modules:

a) electro-magnetics or electronics,

b) materials, and

c) structures,

which can all be taught in workshops using Craft facilities,

d) fluid flow and basic aerodynamics,

e) mechanics, and

f) pneumatics,

which would normally be taught using the facilities of the laboratories.

A major portion of the coursework is concerned with placing pupils in real problem-solving situations, where they have to identify a problem, analyse it, suggest alternative solutions, make judgements and decisions, design within certain defined constraints, plan, organise, create, communicate ideas, construct and evaluate the solution and, throughout this, keep written and illustrative reports on the progress made.

The presentation of the pupils' solutions to the problems has caused Craft teachers to question the role of the Craft Department in this recent venture into integration of areas of knowledge. Many experienced teachers of Craft were trained in Colleges of Education where great stress was placed, not only on the educational value of Craft, but also on the excellence of craftsmanship. In a rapidly developing technological society they see Craft Departments as being custodians of every value that is associated with hand craftsmanship. To these teachers, the solutions to the Technology course problems may be functional, innovative and creative, but they are little more than models made, for example, to allow an electronic process to operate.

Alternatively, those who have brought into teaching a wealth of industrial experience or who have been trained in the Technology

courses at Colleges of Education, see the value of such models as lying in their ingenuity of design rather than in the degree of excellence in joinery and fitting they display. They consider that the processes leading to the solution of problems are in keeping with the requirements of our technological society and that Craft Departments can only survive if they can change to meet these new needs.

The dichotomy of opinion was illustrated during a meeting of teachers that had been arranged to explain the problems likely to be encountered when setting up a course of school Technology. Technology teachers who had taught several Technology examination courses in the host school, displayed the examination coursework that had been constructed by the examination candidates. Fifty visiting teachers were generally impressed by the evidence of the sagacity of the pupils, suspicious of the possible involvement of the teachers in the problem-solving exercises and highly critical of the craftsmanship shown in the solutions to the problems. The Technology teachers argued that the place for craftsmanship was in the traditional Woodwork and Metalwork courses. Technology should be taught as a subject independent of these.

Some impetus has been given to the introduction of Technology courses by the 1980 Conference of Technology in Schools, held at Witham. 44 Headteachers of comprehensive schools and 47 Heads of Craft Departments in comprehensive schools attended. They were informed of the advantages of the subject, particularly as an option for 4th and 5th year pupils, but told that any introduction

of the subject would have to be met from existing capitation. In spite of this, more schools have since introduced the subject to the options list and in so doing have brought a greater measure of respectability and higher status to the Craft Departments. There is still criticism of the courses in some Departments, but 52 schools (59.09%) have at least one member of the Craft Department staff who is willing to undertake the burden of organising and teaching the courses, liaising with Science Departments and monitoring the progress of each pupil throughout the two year course.

Apart from the educational advantages to pupils who have been involved in the examination courses, it would appear that the introduction of Technology to schools has brought satisfaction to many others. For example:

a) teachers welcome academically able pupils to the Craft workshops, even if they need to be instructed in basic workshop practices and processes,

b) Headteachers equate the subject with Computer Studies in that both are supplying a real need in modern education,

c) parents can become actively involved in the projects by contributing information, components and finance,

d) educationalists see the introduction of Technology as a positive and successful attempt to create a subject with both practical and academic components with its own examination syllabus,

e) employers have been favourably impressed by the courses, and

f) Colleges of Further Education, Polytechnics and Universities are counting examination success as part of entrance qualifications.

DRAWING BASED COURSES

TECHNICAL DRAWING is a universal language and a basic means of communicating ideas between designers and producers. Its use is so widespread that every manufacturing and servicing industry is dependent on it as is anyone who has to make or assemble something from a plan. As an essential complement to school Craftwork, Technical Drawing has been in existence since the inception of Manual Training, when every item made had first to be drawn.

The underlying aim of school Technical Drawing today is to train pupils to calculate, conceive and formulate ideas in three-dimensional form and then to express these ideas by means of freehand or stylised sketching. The normal extension of this is for pupils to prepare conventional drawings to British Standards requirements, which are equal to those used in industry, and to be able to read drawings prepared in a similar manner.

Technical Drawing examinations, being complementary to Woodwork and Metalwork examinations, have developed with a bias towards either Building or Engineering. Both types of course also include formal geometrical drawing in the syllabus and this has extended the practical value of the subject to embrace Mathematics and Science. Because of the similarity of the body of knowledge that is required for both the Certificate of Secondary Education and the General Certificate of Education, the subject has been considered suitable for the newly promoted 16+ examination where the whole range of examination pupils in the comprehensive school can be awarded grades in a common examination. 80 schools (90.0%) provide formal Technical Drawing courses for examination purposes, but, like industry, no school

workshop could function without forms of Technical Drawing being in daily use.

The subject has had an attraction for girls, particularly when tracers were used in industrial Drawing Offices. Although the advent of modern reprographic techniques has, to a large extent, made tracing skills redundant, the subject still appeals to girls. It remains a necessary supplement to Woodwork-based and Metalwork-based studies. In its more recent interpretation as Graphic Communications it is a valuable study in its own right for those interested in aspects of commercial art and design.

GRAPHIC COMMUNICATION, as a school subject, retains some of the traditional Technical Drawing, seeks to fill the gap between Art and Technical Drawing and aims to relate more directly to the life of the pupils. By using modern Graphic techniques of line, colour and texture to convey information and enhance drawings, the coursework covers a wider spectrum than that of Technical Drawing. It can include flow diagrams and technical illustration, advertising and logos, roadsigns and maps, diagrams in books and of things to make, as well as plans for houses and household objects. The coursework for examinations includes a chosen topic that is assessed as part of the final examination.

Because of its association with modern living, its appeal to boys and girls and its strong links with industrial use, Graphic Communication is gaining in popularily with pupils and parents who see it as a very worthwhile subject to be taken. The

relationship between the popularity of the two methods of examining linear presentation is shown in Table 62 where it can be seen that 1 in 5 Drawing based courses is now taught as Graphic Communications.

TABLE 62: DRAWING BASED COURSES

COURSE TITLE	EXAMINATION G.C.E	16+	C.S.E	NON-EXAM	TOTAL	%
TECHNICAL DRAWING	61	20	63	9	153	81.81
GRAPHIC COMMUNICATION	14		18	2	34	18.18
TOTAL	75	20	81	11	187	
%	40.10	10.69	43.31	5.88		100 %
EXAM TOTAL	176					
%	94.11					

SUMMARY OF CRAFT COURSES

Table 63 summarises the individual Craft courses that are listed in Tables 59 - 62 and shows the extent to which the 88 comprehensive schools provide examination and non-examination courses for 4th and 5th year pupils.

LINK COURSES

Courses which act as a bridge between school work and further education are held in some Colleges of Education and Technical

TABLE 63: SUMMARY OF NUMBER OF TWO-YEAR COURSES TAUGHT IN CRAFT DEPARTMENTS

SAMPLE = 88 SCHOOLS : 725 COURSES

	EXAMINATION							NON-EXAMINATION				ALL COURSES			
	G.C.E.	16 +	C.S.E.	SUBJECT TOTAL	SUBJECT %	BASE TOTAL	BASE %	SUBJECT TOTAL	SUBJECT %	BASE TOTAL	BASE %	SUBJECT TOTAL	SUBJECT %	BASE TOTAL	BASE %
WOODWORK BASED						150	20.68			12	1.65			162	22.34
WOODWORK	59		89	148	20.41			12	1.65			160	20.06		
BUILDING			2	2	0.27							2	0.27		
METALWORK BASED						203	28.00			26	3.58			229	31.58
METALWORK	56		78	134	18.48			14	1.93			148	20.41		
ENGINEERING	28		23	51	7.03			1	0.13			52	7.17		
M.V. STUDIES	1		17	18	2.48			11	1.51			29	4.00		
INTEGRATED STUDIES						131	18.06			16	2.20			147	20.27
COMBINED MATERIALS	19		21	40	5.51			15	2.06			55	7.58		
TECHNOLOGY	48		43	91	12.55			1	0.13			92	12.68		
DRAWING BASED						176	24.27			11	1.51			187	25.79
TECHNICAL DRAWING	61	20	63	144	19.86			9	1.24			153	21.10		
GRAPHIC COM/ TION	14		18	32	4.41			2	0.27			34	4.68		
TOTALS	286	20	354	660	91.00	660	91.00	65	8.96	65	8.94	725	100 %	725	100 %

Colleges in the County. Termed Link courses, they are currently held in Engineering, Building Studies, Electronics, Motor Vehicle Studies and Electrical and Mechanical Engineering. Depending on the distribution of course titles in school option lists, Link courses can be an addition to school Craft or they can be taken as an alternative to it.

Applications from pupils to attend Link courses exceed the number of places available and the 15 schools involved in the scheme select suitable boys and girls and timetable them to attend College for one day each week for the two-year courses. The courses are essentially prevocational in character and can provide pupils with an introduction to employment in a range of occupations. Pupils have access to workshops and laboratories that are equipped to a high standard than could be expected in their own comprehensive schools. In return they must show a commitment to the work and be willing to take part in a pattern of disciplined study. Where pupils receive Link course instruction in addition to school Craft, teachers are able to capitalise on their increased knowledge by encouraging pupils to undertake more advanced work than they would otherwise be capable of. Where pupils attend Link courses instead of school Craft, the total level of attainment of the Craft groups may be affected by their absence from these groups.

POPULATION OF COURSES

An original aim of the research was to investigate the association between the status of a subject and its popularity, as measured by

the degree of take-up in 4th and 5th year options by pupils under the guidance of their parents and teachers. In the case of 4th and 5th year pupils, this would show a pattern of distribution of nearly 200,000 options among over 37,000 pupils in the 88 comprehensive schools.

The data required to make the comparison is collected periodically through the Essex Schools Curriculum Survey but is classified as confidential by the Essex Education Committee. The survey is not, as yet, covered by the Education (School Information) Regulations of 1981.

The compilation of 4th and 5th year population statistics for all school Craft Departments has, however, been possible during the period of the research visits by referring to:

a) the Essex Schools Curriculum Survey supplied by 15 Headteachers,

b) 417 Craft teachers' timetables giving details of 1173 Craft classes, and

c) data provided by Heads of Craft Departments and Craft teachers during interviews and through returned questionnaires.

A summary of the data collected is shown in Table 64. The general trend indicated in the statistics for the three full years of data collection is towards a decline in the boys' proportion of total craft population from 96.05% to 95.32% and a corresponding increase in that of the girls from 3.94% to 4.67%. These figures mask the multiple Craft option choices by some pupils, whereby

as much as four-fifths of the total option time can be devoted to Craft studies.

TABLE 64: PROPORTIONS OF BOYS AND GIRLS IN 4th and 5th YEAR CRAFT POPULATIONS DURING THE PERIOD OF RESEARCH VISITS

SAMPLE = 88 SCHOOLS : 1173 CLASSES

ACADEMIC YEAR	TOTAL PUPILS	BOYS	%	GIRLS	%
1978 - 79	1668	1602	96.04	66	3.95
1979 - 80	3548	3408	96.05	140	3.94
1980 - 81	5932	5696	96.02	236	3.97
1981 - 82	6972	6646	95.32	326	4.67
1982 - 83	3074	2906	94.53	168	5.46
TOTAL	21194	20258	95.58	936	4.41

EXAMPLES OF THE DISTRIBUTION OF FOURTH YEAR OPTIONS

Schools 'A', 'B' and 'C' [1] provided complete details of the 3340 option choices of boys and girls in one school year. Consideration of the relative ranking of Craft subjects should be considered against a background of the provision of resources, previous Craft experiences in the Lower School and the options selection process adopted within the school.

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1. See pages 207 - 216

SCHOOL 'A'

WORKSHOP ACCOMMODATION: from ex-Secondary Modern school, 2 workshops and 1 Drawing Office

CRAFT TEACHING STAFF: 3 full time and 1 part time.

LOWER SCHOOL CRAFT: Years 1 and 2: core carousel for all boys and girls. 2 lessons weekly throughout the year with Woodwork, Metalwork and Light Crafts being taken in rotation. Year 3: an option of two carousel subjects for a total of five lessons weekly throughout the year.

MAXIMUM CORE CRAFT IN THREE YEARS: 84 hours

UPPER SCHOOL OPTIONS: 1 Science, 1 Language and 1 Craft/Creative core option plus 2 free options.

BALANCED CURRICULA: 43.24%.

TAKE UP OF CRAFT OPTIONS BY BOYS: 19.78%.

TAKE UP OF CRAFT OPTIONS BY GIRLS: 1.48%.

NOMINAL DISTRIBUTION OF GIRLS: 1 girl to each workshop group.

DISTRIBUTION OF OPTIONS: see Table 65.

TABLE 65: DISTRIBUTION OF 4th YEAR OPTION CHOICES IN SCHOOL 'A'. 22 OPTION TITLES. 1981-82.

BOYS	No.	%	GIRLS	No.	%
Domestic Science	2	0.43	Citizenship	1	0.21
Typing	2	0.43	METALWORK	1	0.21
Russian	4	0.86	General Science	1	0.21
Music	6	1.29	TECHNOLOGY	2	0.42
General Science	10	2.15	Music	4	0.85
M.V. STUDIES	11	2.36	TECHNICAL DRAWING	4	0.85
Drama	13	2.79	Needlework	5	1.06
Economics	13	2.79	Drama	6	1.27
TECHNOLOGY	13	2.79	Russian	9	1.91
Citizenship	16	3.44	Economics	13	2.76
WOODWORK	17	3.65	Domestic Science	21	4.46
METALWORK	20	4.30	Physics	26	5.53
Art	21	4.51	Typing	26	5.53
Biology	23	4.94	Geography	29	6.17
German	29	6.23	Art	32	6.80
Geography	30	6.45	Chemistry	35	7.44
TECHNICAL DRAWING	31	6.66	History	45	9.57
Chemistry	32	6.88	German	59	12.55
History	39	8.38	French	72	15.31
French	64	13.76	Biology	79	16.80
Physics	69	14.83			
TOTAL	465	100 %	TOTAL	470	100 %

The Science Department in School 'A' provides suitable General Science courses for slow learning pupils and the school is therefore able to enforce the Science core-option for all boys and girls. This action in itself makes a contribution to the high degree of balance in the curriculum in the school compared with that in schools 'B' and 'C'. It ensures that all pupils are kept in contact with an essential body of knowledge for a further two years and removes the pressure from other Departments to provide alternative lessons for below average pupils during Science lessons. However, the Language Department does not provide suitable courses or European Studies for slow learners and the school includes subjects from other Departments in the Language option blocks. These are mainly Craft subjects for boys and Commercial subjects for girls, with groups being composed mainly of below-average ability pupils.

Even though girls are included in a Craft/Creative carousel in Years 1 and 2, only 6 opted for Craft in Year 3, and 4 girls opted for Craft in Year 4. The rotation of subjects can result in the removal of its influence from pupils for up to five terms before option choices are made at the end of the third year. A view, widely held by Craft teachers, is that subjects not taken in the third year are unlikely to be considered as options in the 4th year. (1)

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1. This view is supported by HM Inspectors of Schools in DEPARTMENT OF EDUCATION AND SCIENCE (1979) Aspects of Secondary Education in England. p.20.

SCHOOL 'B'

WORKSHOP ACCOMMODATION: ex-secondary Technical school with 5 workshops and 1 Drawing Office plus 2 Sixth Form workshops erected as part of the Comprehensive building programme.

CRAFT TEACHING STAFF: 4 full time and 2 part time.

LOWER SCHOOL CRAFT: Years 1 and 2: core carousel for all boys and girls. 2 lessons weekly with Woodwork and Metalwork being taken in rotation. Year 3: core carousel for all boys and girls. 3 lessons weekly for half year for Woodwork: 3 lessons weekly for half year for Metalwork.

MAXIMUM CORE CRAFT IN THREE YEARS: 104 hours.

UPPER SCHOOL OPTIONS: 1 Science core option plus 5 free options.

BALANCED CURRICULA: 33.64%.

TAKE UP OF CRAFT OPTIONS BY BOYS: 26.55%.

TAKE UP OF CRAFT OPTIONS BY GIRLS: 5.22%.

NOMINAL DISTRIBUTION OF GIRLS: 3 girls to each workshop group.

DISTRIBUTION OF OPTIONS: See Table 66.

TABLE 66: DISTRIBUTION OF 4th YEAR OPTION CHOICES IN SCHOOL 'B'. 26 OPTION TITLES: 1981-82

BOYS	No.	%	GIRLS	No.	%
Music	1	0.14	Home Economics	1	0.16
Typing	2	0.28	Music	2	0.32
Food & Nutrition	5	0.70	TECHNOLOGY	2	0.32
Pottery	5	0.70	European Studies	2	0.32
Sociology	7	0.98	Humanities	4	0.65
Humanities	9	1.27	Pottery	5	0.81
European Studies	12	1.69	TECHNICAL DRAWING	5	0.81
Art	13	1.83	Computer Studies	9	1.47
GRAPHICS	17	2.40	WOODWORK	9	1.47
Drama	20	2.83	Child Care	13	2.12
French	23	3.24	Textile Design	13	2.12
German	28	3.95	GRAPHICS	16	2.61
Computer Studies	31	4.37	Economics	24	3.92
TECHNOLOGY	33	4.66	Sociology	28	4.57
Chemistry	34	4.80	Chemistry	29	4.73
METALWORK	38	5.36	Drama	29	4.73
History	47	6.63	Art	30	4.90
Biology	49	6.92	Typing	32	5.22
WOODWORK	50	7.06	German	33	5.39
TECHNICAL DRAWING	50	7.06	Geography	39	6.37
Economics	60	8.47	Physics	40	6.53
Geography	75	10.59	History	42	6.86
Physics	99	13.98	Food & Nutrition	54	8.82
			French	58	9.47
			Biology	93	15.19
TOTAL	708	100 %	TOTAL	612	100 %

School 'B' has a legacy of excellent Technical school Craft facilities and a current curriculum policy which supports equal opportunities for boys and girls. This combination of resources and philosophy has allowed boys and girls equal access and time to study Craft as a component of the core curriculum for three full years. Only in four other comprehensive schools in Essex is this permitted. The view of the school's Head of Craft Department is that the weekly contact between Craft teachers and pupils accounts for the high take up of Craft in 4th year options. This amounts to one in three girls and 9 out of 10 boys opting for Craft with one boy in three taking four Craft options. Significantly, there is a wide ability range of pupils in the Craft groups.

The exclusion of girls from Craft in School 'C' during the first three years and the absence of a carousel, allows boys to use all the curriculum time allocated to practical education, which consists at this stage of Woodwork and Metalwork only. In the Upper School, the absence of option lists and the low priority attached to balanced curricula, allow pupils to spend up to four-fifths of available option time studying Craft subjects. Seven boys are able to take four Craft options. The degree of popularity of Craft subjects is illustrated in Table 67, where Departmentally, Craft is ranked highest by boys and lowest by girls.

SCHOOL 'C'

WORKSHOP ACCOMMODATION: purpose-built Comprehensive school with 6 workshops and 2 Drawing Offices.

CRAFT TEACHING STAFF: 6 full time.

LOWER SCHOOL CRAFT: Boys only take Craft. Year 1 have 2 lessons of Woodwork weekly. Year 2 have 2 lessons of Woodwork and 2 lessons of Metalwork weekly. Year 3 have 2 lessons each of Woodwork and Metalwork plus an option of 2 lessons of Woodwork or Metalwork.

MAXIMUM CORE CRAFT IN THREE YEARS: 220 hours.

UPPER SCHOOL OPTIONS: 5 free options with no preliminary blocking of subjects.

BALANCED CURRICULA: 10.59%.

TAKE UP OF CRAFT OPTIONS BY BOYS: 28.49%.

TAKE UP OF CRAFT OPTIONS BY GIRLS: 0.72%.

NOMINAL DISTRIBUTION OF GIRLS: 1 girl for every 2 workshop groups.

DISTRIBUTION OF OPTIONS: See Table 67.

TABLE 67: DISTRIBUTION OF 4th YEAR OPTION CHOICES IN SCHOOL 'C'. 28 OPTION TITLES. 1981-82

BOYS	No.	%	GIRLS	No.	%
Spanish	2	0.37	M.V. STUDIES	2	0.36
Typing	3	0.56	TECHNICAL DRAWING	2	0.36
Commerce	4	0.75	General Science	3	0.54
French	6	1.13	Accounts	6	1.08
Accounts	7	1.32	Geology	7	1.26
European Studies	8	1.50	Scripture	11	1.98
Scripture	8	1.50	British Constit.	14	2.52
Human Biology	10	1.88	Physics	14	2.52
British Constit.	11	2.07	Spanish	14	2.52
Home Economics	11	2.07	European Studies	15	2.70
Biology	12	2.26	Home Economics	15	2.70
General Science	12	2.26	Economics	18	3.24
German	15	2.83	Geography	18	3.24
Economics	16	3.01	Social Studies	19	3.42
Aviation Studies	17	3.20	Chemistry	27	4.86
Geology	17	3.20	French	28	5.04
TECHNOLOGY	18	3.39	Art	29	5.22
METALWORK	21	3.96	Human Biology	35	6.30
Social Studies	21	3.96	Child Care	36	6.48
WOODWORK	22	4.15	Biology	42	7.56
Chemistry	31	5.84	Commerce	42	7.56
Geography	39	7.35	German	47	8.46
M.V. STUDIES	40	7.54	History	50	9.00
Physics	40	7.54	Typing	61	10.99
Art	41	7.73			
History	48	9.05			
TECHNICAL DRAWING	50	9.43			
TOTAL	530	100 %	TOTAL	555	100 %

TABLE 68: COMPARISON OF TAKE UP OF CRAFT OPTIONS IN SCHOOLS 'A', 'B' AND 'C'.
SAMPLE = 624 FOURTH YEAR PUPILS WITH 3340 POSSIBLE OPTIONS: 1981-82

SCHOOL	POPULATION	TOTAL OPTIONS	NUMBER OF CRAFT OPTIONS SELECTED					No. OF PUPILS TAKING CRAFT	% OF BOYS/ GIRLS TAKING CRAFT	TOTAL No. OF CRAFT OPTIONS SELECTED	CRAFT AS % OF BOYS / GIRLS OPTIONS
			0	1	2	3	4				
A	BOYS 93	465	29	37	26	1		64	68.81	92	19.78
	GIRLS 94	470	90	1	3			4	4.25	7	1.48
	TOTAL 187	935	119	38	29	1		68	36.36	99	10.58
B	BOYS 118	708	16	39	40	23		102	86.44	188	26.55
	GIRLS 102	612	71	30	1			31	30.39	32	5.22
	TOTAL 220	1320	87	69	41	23		133	60.45	220	16.66
C	BOYS 106	530	30	33	21	16	7	77	72.64	151	28.49
	GIRLS 111	555	107	4				4	3.60	4	0.72
	TOTAL 217	1085	137	37	21	16	7	81	37.32	155	14.28

Table 68 summarises the available statistics relating to the selection of Craft options in the three schools and also includes the number of Craft options selected by individual pupils.

CRAFT FOR FOURTH AND FIFTH YEAR GIRLS

The number of girls taking Craft in the three schools 'A', 'B' and 'C' represents 12.70% of the girls in the fourth year of the three schools. Data provided by Heads of Departments and Craft teachers in all schools where 4th and 5th years were functioning, see Table 64, indicate that 4.41% of the girls in these years take Craft as an option. This figure for the County masks the multiple selection of Craft options made by individual girls. A working hypothesis is that not more than one girl in 20 will have taken Craft as an option in the 4th and 5th years during the period of this research.

SUMMARY

Over 700 courses are offered by Craft Departments to 4th and 5th year pupils and these courses cover the whole ability spectrum in the comprehensive school. 90% of the courses follow an examination syllabus.

The traditional skills used in fine craftsmanship are still the basis of teaching in most schools but this is being increasingly challenged by a design-based problem-solving approach to Craft. In this, the finished product is achieved only after a complicated sequence of thought provoking exercises is worked through.

Technical Drawing has taken on a new design-based approach through Graphic Communications. The introduction of Combined Materials and Technology courses has succeeded in removing subject barriers within the Craft Department and, to some extent, within the school. In spite of initial resistance, more than half of the schools in the County teach Technology.

The examples of three schools show that the distribution of Craft options in the 4th and 5th years can be affected by:

a) the degree of contact pupils have with Craft in the Lower School,

b) the option system used by the school,

c) the provision of Craft facilities, and

d) the curriculum philosophy adopted by the school.

Not more than 1 girl in 20 in the County will take Craft as an option in the 4th and 5th years.

9. CRAFT STUDIES IN THE SIXTH FORM

COUNTY POLICY AND THE FUTURE OF THE SIXTH FORMS

The general decline in the intake of secondary schools, coupled with the expected increase in the demand for Sixth Form studies, has given added urgency to the need to consider viable schemes for educating pupils beyond the age of 16 years. The implementation of any new scheme, whether temporary or permanent, can affect the status of the school, Departments within the school and subjects taught in the Departments.

Since the introduction of comprehensive education in Essex, 20 schools in two education Areas of the County and 6 schools in other Areas have had a restricted age range of pupils from 11 to 16 years and these schools, therefore, have no Sixth Forms. Pupils from these schools seeking education beyond the age of 16 years, can apply for admission to the 12 Colleges of Further Education, Sixth Form Colleges or Sixth Form Centres that operate within the County. (So indeed can pupils from any other school).

One innovation, designed to rationalise the provision of courses for Sixth Form pupils in comprehensive schools where the age range extends to 18 years, has been the establishment of a number of consortia. Two or more neighbouring schools are given the responsibility for ensuring that a wide range of General Certificate of Education 'A' level courses are made available for pupils, in groups that are educationally and economically

viable in size. The arrangement can be extended to include the local College of Further Education. Pupils then travel to the host school for specific subjects but still remain on the roll of their own schools. Although the consortia can help to solve the problem of low numbers for particular subjects in some schools, not all Heads of Departments are satisfied with the system because of (a) the reduction of 6th Form potential within their own Departments and (b) the reported drop-out rate of pupils from the courses.

A more drastic reorganisation of the 11 - 18 comprehensive school system is being considered, mainly for implementation in the urban areas. The number of schools will be reduced to meet the intake demand and the redundant schools will be converted into 6th Form Colleges or 6th Form Centres with a simultaneous withdrawal of 6th Form facilities from the neighbouring feeder schools. Where this strategy is not applied to all schools in any one Area, the status of those schools included in the scheme and of the subjects taught in them is likely to be considered as lowered.

The proposal to separate post-16 year education from the schools is not meeting with the wholehearted approval of Headteachers who consider that the range of subjects offered to General Certificate of Education 'A' level and the efficient use of available resources in their schools are equal to those found anywhere else.

COMPOSITION OF SIXTH FORMS

The educational reasons that pupils have for joining the 6th Form can be dependent on the subjects taken and the level to which the courses are pitched, and both can contribute to the status of a subject within the school.

The 6th Form can be a continuation of the 5th Form in that:

a) pupils re-sit failed examinations, and

b) pupils re-sit examinations in order to obtain higher grades.

In these cases, the composition of the 6th Form will be largely accidental and totally dependent on the results of examinations which were published only a few weeks before the start of the new school year. The composition of the 6th Form and the number of pupils involved in studies will vary from year to year and term to term, particularly when re-sit examinations are taken in the following Spring term.

The 6th Form can also be a continuation of the 5th Form in that:

a) pupils may wish to add to their total of General Certificate of Education 'O' level subjects, and

b) slow learning pupils may need extra time to complete their studies.

It is most unlikely that special timetable provision will be made for these pupils and they will therefore become part of the main

Sixth Form group. In the case of Craft subjects, the main group may also include those pupils from all levels of practical and academic ability who wish to take part in recreational non-examination courses as part of a minority timetable component that is obligatory is some schools. In the five instances quoted the activities of the mixed ability group will do little to enhance the status of any subject beyond that accorded to it in the 5th Year.

The status of the school, the Department and the subject can be raised when schools plan two-year courses of advanced studies and when the reputation for excellence in examination results meets the challenge from other schools and Colleges of Further Education.

The Education (School Information) Regulations 1981 make it necessary for schools to publish details of the proposed 6th Form courses on offer and the levels of examinations that pupils will be expected to take. Some schools are now producing for prospective 6th Form pupils and their parents attractive information packs, which set out the argument for the continuation of 6th Form studies in the known enviroment of the pupil's own school. Headteachers have used this medium to make statements against the County's policy for 6th Forms, deploring the growing tendency to divorce 6th Form studies from the schools.

SIXTH FORM CRAFT STUDIES

The overall view of Craft studies in the 6th Form is affected by

the uncertain and fluctuating composition of the 6th Form populations and the span of time required to make the research visits. The data originates from:

a) information supplied at the time of the visits,

b) information supplied in questionnaires,

c) inspections of school and teacher timetables, and

d) published lists of examination results.

During the period of research visits, Sixth Form Craft activities were recorded in 38 schools (61.29% of those schools where a Sixth Form existed). Craft courses for General Certificate of Education 'A' level were taught in 29 schools, for 'O' level in 18 schools, for the Certificate of Secondary Education in 8 schools and for non-examination pupils in 9 schools. Classes consisting of 'A' level pupils only were found in 14 schools. Pupils in the remaining schools were taught Craft in mixed ability groups in which various examination courses and non-examination Craft were taught during the same lesson.

To illustrate the composition of Sixth Form Craft teaching groups, 28 teachers gave details of 33 classes where a total of 201 pupils were taught: 198 boys and 3 girls. Classes for specific examinations were provided for approximately half of the pupils - 27% for General Certificate of Education 'A' level, 18% for General Certificate of Education 'O' level and 4% for Certificate of Secondary Education. 51% of pupils were taught in mixed ability groups in which both examination and non-examination levels of Craft were taught during the same lesson

General Certificate of Education 'A' level examination results for Summer 1983 have been provided by 58 of the 62 schools (93.54%) where Sixth Forms are functioning. 19 schools (30.64%) provided 'A' level Craft courses: 17 for forms of Drawing, 5 for Design and Technology (i.e. Woodwork and Metalwork), 2 for Technology and 1 for Engineering. Table 69 shows the popularity of 'A' level courses in all subjects in the 58 schools and is compiled with reference to examination passes and not the number of examination entries.[1] The complete and accurate presentation of the pattern of General Certificate of Education 'A' level studies in Essex is not possible because of:

a) the absence of statistics from 4 schools,

b) the absence of 'A' level entries for those pupils who, leaving the 11 - 16 year age range comprehensive schools, then take 'A' level studies at Sixth Form Colleges,

c) the incidence of multi-choice options not recorded in the published statistics, and

d) the fact that no separate statistics for boys and girls are published.

A study of all prospectuses issued for the school year 1983 - 1984 shows that 10 schools (16.12% of the 11 - 18 year age range comprehensive schools) have made provision for 'A' level General Certificate of Education Craft courses.

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1. The total number of examination entries does not have to be provided under the Education (Schools Information) Regulations of 1981.

TABLE 69: POPULARITY OF CRAFT COURSES: GENERAL CERTIFICATE OF EDUCATION 'A' LEVEL PASSES SUMMER 1983.

SAMPLE = 58 SCHOOLS

	NUMBER OF PASSES	% OF TOTAL PASSES
MATHEMATICS	899	17.53
ENGLISH	614	11.98
PHYSICS	590	11.50
CHEMISTRY	454	8.85
BIOLOGY	405	7.90
ECONOMICS	401	7.82
HISTORY	388	7.56
GEOGRAPHY	353	6.88
FRENCH	214	4.17
ART	193	3.76
GERMAN	116	2.26
SOCIOLOGY	81	1.58
COMPUTER STUDIES	46	0.89
POLITICS	44	0.85
MUSIC	39	0.76
LAW	39	0.76
HOME ECONOMICS	37	0.72
GEOLOGY	36	0.70
RELIGIOUS KNOWLEDGE	29	0.56
TECHNICAL DRAWING	23	0.44
SPANISH	22	0.42
ELECTRONICS	21	0.40
GENERAL STUDIES	18	0.35
FASHION AND FABRICS	17	0.33
THEATRE STUDIES	10	0.19
BUSINESS STUDIES	9	0.17
DESIGN AND TECHNOLOGY	8	0.15
LATIN	6	0.11
TECHNOLOGY	4	0.07
ACCOUNTS	3	0.05
ENGINEERING	2	0.03
ZOOLOGY	2	0.03
RUSSIAN	2	0.03
PSYCHOLOGY	1	0.01
TOTAL	5126	100 %

SUMMARY

There are 64 comprehensive schools in the sample having 11 - 18 year populations. The Sixth Form is used to enable Certificate of Secondary Education and General Certificate of Education 'O' level examinations to be studied, but subjects can gain in status when they are taught at General Certificate of Education 'A' level.

The best estimates show that 38 schools cater for some kind of Sixth Form Craft activities which range from non-examination courses to General Certificate of Education 'A' level courses. In all, 19 schools provided General Certificate of Education 'A' level Craft courses in 1983.

Success in Mathematics accounted for 17.53% of the total number of 'A' level passes in 1983, while the number of successes in Technical Drawing, Design and Technology, Technology and Engineering examinations amounted to 0.69% of this total.

In a technological age, more pupils passed in Latin examinations than in Technology.

10. THE ETHOS OF CRAFT EDUCATION

CRAFT EDUCATION

The ethos of Craft education incorporates:

a) the accepted body of knowledge and skills, its acquisition by the teacher and its transmission to the pupils,

b) the aims of the Department and the teacher, which may be subjected to constraints imposed by the curriculum, teaching strategies, syllabuses, resources and attitudes, and

c) the objectives of Craft education which can be unmeasurable or measurable.

These factors can be compared with the ethos of other subjects and can form the bases for relative assessment of status of these subjects.

The accepted body of knowledge and skills acquired by the teacher is not derived from any one source. Its acquisition may well have started in the primary school, through the pursuit of a leisure activity, or through Craft lessons in secondary school, where success in Craft examinations might have been the reason for the pupil's eventual entry into the profession. Craft knowledge and skills can be widened through industrial experience and formalised in College training. They can be supplemented by post-certificate academic and Craft examinations and kept topical by the regular study of Craft literature and attendance at

refresher courses and summer schools. At all times they are liable to modification in the light of experience.

Many sources can contribute to the teacher's perception of the role of Craft in society, his role as a teacher and his own evaluation of the status that he considers should be accorded to the subject and to him by the school and by society. Such an evaluation of status varies not only between individuals but also between groups such as pupils, parents, non-Craft teachers, Headteachers, employers and those responsible for selecting pupils for Further Education. All can base their estimates of status on either heresay or on personal knowledge of the activities undertaken within the Craft Department, which may be limited to remembered Craft experiences from their own childhood.

It is because of the general ignorance of modern Craft activities that the titles given by the school to the Craft Department and its activities take on an important role. This is particularly the case when options are being considered by parents, when educational values are being compared by non-Craft teachers, when resources are apportioned by Headteachers and when examination qualifications are assessed by employers and those dealing with Further Education.

The range of work now covered by Craft education is extensive. A seemingly perpetual task is to find a term that will adequately describe these activities so that the role of the work can be understood, and with that, the correct interpretation of its

value and status in the school and society be made. The role has changed dramatically during the period of comprehensive reorganisation and the development of our technological society. In simplistic terms, the emphasis previously placed on the acquisition of traditional skills to produce fine examples of craftsmanship is now, for many, not only outdated but is considered a luxury in the overcrowded curriculum. The new and powerful force is a completely different, non-traditional approach to Craft and Craft teaching. It seeks to ally the activities of the school workshops with the needs of our increasingly technological society involving pupils, from the earliest possible moment, in the real world of problem-solving or, to use the frequently misunderstood and confusing term, in the process of Design. By extending the concept and developing suitable courses, Design is now allied to school Technology.

The complex multi-dimensional properties of the design sequence suggested by the Schools Council Project on Design and Craft Education [1] and Project Technology [2] are shown in simplified form in Figure 3 [3] to illustrate the opportunities present for learning of the most sophisticated kind. The result, as Dodd claims, can lead to

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1. SCHOOLS COUNCIL (1969) Education Through the Use of Materials.
2. SCHOOLS COUNCIL (1968) Technology and the Schools.
3. DODD, T. (1978) Design and Technology in the School Curriculum. p.45.

'integrated programmes which can foster parallel cognitive, affective and psycho-motor development in a natural and 'commonsense' form. In the past, criticism has been levelled at those practical subjects which have denied the pupil the essential 'thinking' part of the process and which have centred on the realisation aspect only.' (1)

FIGURE 3: THE DESIGN PROCESS

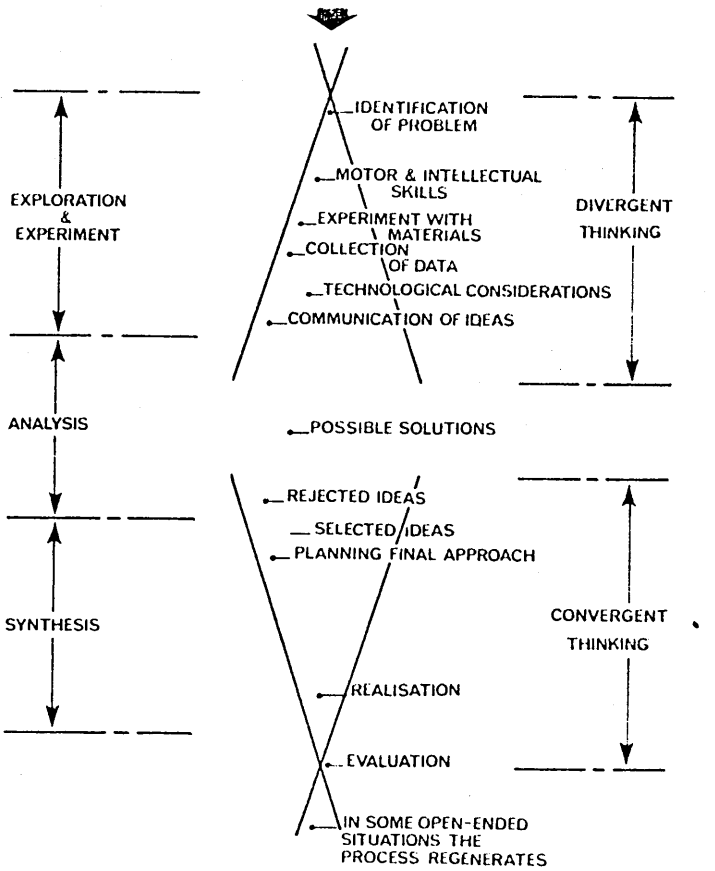

Figure 3 illustrates the detailed and analytical process of enquiry that leads to the achievement of design and which must be worked through with the aid of a design brief. This, in the form of a package of academic exercises, is usually undertaken in the school workshop and, in the initial stages, before the

1. DODD, T. (1978) ibid. p.44

acquisition of tool skills or the knowledge of workshop processes. This teaching strategy is in direct contrast to that used when teaching Craft in the traditional manner. Here the workshop tools and equipment are used to provide the initial excitement and interest. A succession of pieces of work, graded to suit the age and ability of the pupils and including opportunities for experiments in design, is used to sustain it.

Resistance to changing to the total Design approach to Craft teaching is evident from discussions during research visits and from answers given in the Head of Department and Teacher questionnaires. The initial analysis exercises are challenging to those pupils who are equipped academically to meet them. But the low ability range of many of their teaching groups, coupled with the limited allocation of workshop time, suggests to teachers that traditional Craft teaching offers greater possibilities for their pupils to achieve success in the subject. Teachers of low ability groups may assess the relevance of their work by the contribution it makes to the personal development of the pupil. In addition, the educational, social, recreational, therapeutic and vocational values attributed to Craft education may be considered to be of greater value than the more measurable criterium of examination success.

The changing national philosophy of Craft teaching during the past 25 years is expressed in the growth and decline in the number of Craft titles for degree and diploma teacher training courses. Table 70 shows course titles for prospective teachers;

TABLE 70: TEACHER TRAINING: NUMBER OF CRAFT COLLEGES AND COURSES LEADING TO CERTIFICATE AND DEGREE QUALIFICATIONS

	NUMBER OF CRAFT COLLEGES (1)				
COURSE TITLE	1959	1975	1978	1979	1984
ART AND CRAFT	1	1	1		
CRAFT	5				2
HANDCRAFT	1				
HANDICRAFT	12	1			
HANDWORK	2				
MEN'S CRAFT	1				
WOODWORK, METALWORK, ETC.	6	4	2	1	
HANDICRAFT AND DESIGN		1			
HANDICRAFT AND TECHNICAL STUDIES		1			
THREE - DIMENSIONAL DESIGN		1		2	
WORKSHOP CRAFT		1			
ART AND DESIGN		1	1		
CONSTRUCTIONAL DESIGN		2	2		
DESIGN EDUCATION		1	1		
TECHNOLOGICAL STUDIES		1	1		
CRAFT AND TECHNICAL STUDIES		1	1	1	
CREATIVE DESIGN		2	1	1	
THREE - DIMENSIONAL CRAFTS		3	2	2	
CRAFT AND DESIGN		2	1	1	2
DESIGN AND TECHNOLOGY		3	8	7	4
CRAFT, DESIGN AND TECHNOLOGY		2	1	3	7
HANDICRAFT - DESIGN STUDY			1		
HANDICRAFT - DESIGN AND TECHNOLOGY			1		
WORKSHOP CRAFTS AND DESIGN			1	1	
THREE - DIMENSIONAL STUDIES			1	2	
DESIGN AND CRAFT EDUCATION				1	1
NUMBER OF COURSE TITLES	7	17	16	11	5
NUMBER OF COLLEGES	27	26	24	21	15

1. HANDBOOK ON TRAINING FOR TEACHING (1959 and subsequent issues)

Table 71 course titles for qualified teachers. Both tables show the movement away from, and the final rejection of, the folk craft image. This is followed by a period of role searching and the eventual consolidation of titles that all include one or more of the elements of Craft, Design and Technology. The Craft element of the title represents the importance of our links with the philosophy of William Morris and the values attached to hand craftsmanship. The Design element shows the need for creativity to meet changing conditions. The Technology element adds modern techniques and materials to the teaching and makes the study of the subject an experience participating in the current scientific revolution.

TABLE 71: TEACHER TRAINING: NUMBER OF CRAFT COLLEGES AND ONE YEAR SPECIALIST COURSES FOR QUALIFIED TEACHERS

	NUMBER OF CRAFT COLLEGES (1)				
COURSE TITLE	1959	1975	1978	1979	1984
CRAFT	2				
HANDICRAFT	8	3			
WOODWORK, METALWORK	1	1			
DESIGN EDUCATION		1			
WORKSHOP CRAFTS		1			
CRAFT AND TECHNICAL STUDIES		1	2	1	
CRAFT, DESIGN AND TECHNOLOGY		1	3	4	6
CRAFT AND DESIGN			3	2	1
WORKSHOP CRAFTS AND DESIGN			1	1	
DESIGN AND TECHNICAL STUDIES			1	1	1
DESIGN TECHNOLOGY			2	3	3
TECHNOLOGY					1
TECHNOLOGY FOR SCHOOLS					1
NUMBER OF COURSE TITLES	3	6	6	6	6
NUMBER OF COLLEGES	11	8	12	12	13

1. ibid

But the change in Craft philosophy has not been accepted by all Craft Departments in Essex comprehensive schools. Teachers trained in traditional Craft methods are under pressure to change to design-based work. Teachers newly trained in design-based work have joined Craft Departments where traditional Craft is still the central theme of Craft education. Heads of Departments who would otherwise be willing to change to design-based work are unwilling to do so in the face of opposition from their Departmental colleagues or until adequate resources are made available. Such conflict between ideologies affects the teacher's own conception of the value and status the school and society place on the contribution both he and the subject make to the total development of every pupil he teaches.

THE CONFLICT BETWEEN RECEIVED AND TAUGHT CRAFT IDEOLOGY

Details of training routes into Craft teaching were provided by 168 teachers - all men.[1] In all 127 of these received teacher training in a Teacher Training College or College of Education where Craft formed the major field of study. Of these 33 undertook teacher training after a period of full-time employment in industry. Some 35 entered the profession from industry without any college training and a further 6 entered teaching with non-Craft degrees or other professional qualifications. Table 72 shows the year of entry into the sphere of Craft teaching by the

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1. Two women teach Craft in Essex comprehensive schools. Both are Art trained and are used because of the shortage of specialist Craft teachers in their schools.

TABLE 72: DATE OF ENTRY OF TEACHER INTO CRAFT EDUCATION.
TITLE OF COLLEGE CRAFT COURSE.

SAMPLE = 168 TEACHERS.

	TEACHER TRAINING CRAFT COURSES																			
	EDUCATIONAL HANDWORK	HANDICRAFT	WOODWORK, METALWORK, ETC.	CRAFT	ENGINEERING	TECHNICAL STUDIES	DESIGN	CRAFT, DESIGN & TECHNOLOGY	LIGHT CR[illegible]	3 - DIMENSIONAL CRAFTS	CREATIVE DESIGN	TECHNOLOGY	CONSTRUCTIONAL DESIGN	DESIGN TECHNOLOGY	CRAFT DESIGN	NOT KNOWN	VIA FURTHER EDUCATION	VIA NON-CRAFT DEGREE	DIRECT FROM INDUSTRY
1941	1																		
1945		1																	
1947	1	1																	
1948		1	1																
1949		3		1															1
1950					1											2			
1951		1		1															
1952		1		1												1			
1953		2		1															
1954		1																	1
1955		2																	1
1956		1																	
1957						1										1			
1958		2														1			1
1959		1																	3
1960		3					1									1			2
1961		4																	1
1962		2		1													1		
1963		4						1											
1964		3																	
1965		2				2													1
1966		3		1					1										
1967		2																	
1968		3																	
1969		2		1														1	1
1970		4						1		1									2
1971		1	1								1								3
1972		2						2				1	1						2
1973		3									1			1	1				1
1974		1		2	1	2		1							1				7
1975														2	2	1			1
1976		1	1	1											2			1	2
1977								3					1					1	2
1978								3						2					1
1979								3		1				1					1
1980				1														1	
1981								1										1	
NO DATE			1										1			2			1
TOTAL	2	57	4	11	2	5	1	15	1	2	2	1	3	6	6	9	1	5	35
								118								9	6		35

168 teachers in the sample and, in the case of those receiving college training, the title of the Craft course under which this training was received.

The three significant factors which are illustrated are:

a) the long association by colleges with the term 'Handicraft' and the body of knowledge and skills that is associated with it,

b) the multiplicity of course titles that follows, broadly, the development of comprehensive education, and

c) the number of years that Craft teachers have been recruited from industry and without receiving any form of college Craft training.

It is a matter of speculation how much this last factor has contributed to the reduction in the number of college trained Craft teachers and, by extension, the reduction in the numbers of Craft colleges where courses for Craft teachers are provided. Included in Table 72 are the training routes of 56 Heads of Departments who are responsible for the overall teaching programmes of Craft in their schools. In all 50 of these were college trained - 20 at Shoreditch College [1] with its long history of excellence in traditional craftsmanship, 5 came from industry without formal teacher training and 1 came into teaching with a non-Craft degree.

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1. Previously Shoreditch Training College and now part of Brunel University.

117 teachers who received college training in Craft supplied both the title given to Craft courses under which they were trained and the name given to Craft by the school at which they held their first appointments as Craft teachers. Table 73 lists each response and shows that 113 (96.58%) taught in school Craft Departments where the name broadly reflected the traditional approach to Craft teaching, where the acquisition of skills was of paramount importance and where Design would eventually be taught but only after the acquisition of skills. However, 34 of these teachers were trained in the Design-based approach to Craft teaching where the problem-solving was the raison d'etre for the acquisition of skills.

Table 74 illustrates the similar emphasis on traditional Craft teaching encountered by 38 of the 41 teachers who came into teaching direct from industry or with a non-Craft degree.

CRAFT DEPARTMENTS IN ESSEX COMPREHENSIVE SCHOOLS

Just as the names of teacher training courses in Craft change to echo the national and official conception of the activities that are embraced by Craft education, so the names of school Craft Departments change from time to time in order to present an accurate description of the work currently being undertaken within the Departments.

Table 75 lists the current names of the 90 Craft Departments in Essex comprehensive schools and shows that one third of the

TABLE 73: RECEIVED AND TAUGHT IDEOLOGY.

COMPARISON BETWEEN COLLEGE COURSE AND SCHOOL CRAFT.

SAMPLE = 117 TEACHERS

		FIRST CRAFT DEPARTMENT											
		TRADITIONAL								DESIGN			
		WOODWORK, METALWORK, ETC.	CRAFTS	TECHNICAL STUDIES	BUILDING STUDIES	HANDICRAFT	BOYS CRAFTS	PRACTICAL	TOTAL	CREATIVE DESIGN	DESIGN STUDIES	CRAFT, DESIGN AND TECHNOLOGY	TOTAL
COLLEGE CRAFT COURSE													
TRADITIONAL	HANDWORK	1		1					2				
	HANDICRAFT	28	4	6		16	1		55		1		1
	WOODWORK, METALWORK ETC.	4							4				
	CRAFT	6	4			1			11				
	ENGINEERING	2							2				
	TECHNICAL STUDIES	1	1	3					5				
	TOTAL	42	9	10		17	1		79		1		1
DESIGN BASED	DESIGN	1							1				
	CRAFT, DESIGN AND TECHNOLOGY	5	3	3	2				13			2	2
	LIGHT CRAFTS	1							1				
	3 - DIMENSIONAL CRAFTS	1						1	2				
	CREATIVE DESIGN			1					1	1			1
	TECHNOLOGY	1							1				
	CONSTRUCTIONAL DESIGN		1	2					3				
	DESIGN TECHNOLOGY	1	1	4					6				
	CRAFT DESIGN	3		2			1		6				
	TOTAL	13	5	12	2		1	1	34	1		2	3

TABLE 74: TYPE OF COURSE TAUGHT BY ENTRANTS TO TEACHING VIA INDUSTRY AND DEGREE

SAMPLE = 41 TEACHERS

	SCHOOL CRAFT	INDUSTRY	DEGREE
TRADITIONAL CRAFT	BUILDING STUDIES	1	
	PRACTICAL	1	
	CRAFT	2	
	BOY'S CRAFT	3	
	HANDICRAFT	4	
	TECHNICAL STUDIES	8	3
	WOODWORK, METALWORK, ETC.	14	2
	TOTAL	33	5
DESIGN BASED	CRAFT, DESIGN AND TECHNOLOGY	1	
	CREATIVE DESIGN	1	1
	TOTAL	2	1

TABLE 75: TITLE OF CRAFT DEPARTMENTS IN ESSEX COMPREHENSIVE SCHOOLS

SAMPLE = 90 SCHOOLS

	SCHOOL CRAFT	No. OF SCHOOLS	%
TRADITIONAL CRAFT	BOY'S CRAFT	1	1.11
	WORKSHOPS	1	1.11
	WOODWORK, METALWORK, ETC.	3	3.33
	CRAFT	7	7.77
	TECHNICAL STUDIES	48	53.33
	TOTAL	60	66.66
DESIGN BASED CRAFT	PRACTICAL DESIGN	1	1.11
	DESIGN	2	2.22
	CREATIVE STUDIES	2	2.22
	TECHNOLOGY	3	3.33
	DESIGN AND TECHNOLOGY	4	4.44
	CRAFT, DESIGN AND TECHNOLOGY	18	20.00
	TOTAL	30	33.32

titles indicate a commitment to the Design approach to Craft teaching, with 18 (20.00%) of the Departments adopting the term Craft, Design and Technology that is now the official designation of the subject by the Department of Education and Science.

Two-thirds of all Craft Departments, however, retain titles that at least suggest a traditional skill oriented approach to Craft teaching. Over half of these Departments use the descriptive term Technical Studies.

Heads of Craft Departments were asked if they were satisfied that the name given to their Department by the school accurately described the extent, content, aims and objectives of the courses offered by the Department and by which assessments of status could be made by pupils, non-Craft teachers and parents. 16 (17.77%) considered that the title did not accurately describe the work done and suggested alternative titles, shown in Table 76, that were in keeping with current Departmental activities. The titles indicate a movement away from the idea of a skill-oriented subject which is suitable for study by boys only.

Heads of Departments who were members of the Craft Department of their school before comprehensive reorganisation were asked if any change of Departmental name had contributed significantly to the change of status of the Department or the subjects taught. Of the 32 Heads of Department who had taught Craft in their

TABLE 76: SUGGESTED NEW TITLES FOR CRAFT DEPARTMENTS.
SAMPLE = 16 HEADS OF DEPARTMENT

SUGGESTED DEPARTMENTAL NAME		EXISTING NAME: TRADITIONAL — WOODWORK, METALWORK, ETC.	TECHNICAL STUDIES	CRAFT	BOYS CRAFT	DESIGN — PRACTICAL DESIGN	DESIGN	TOTAL
TRADITIONAL	CRAFT EDUCATION		1		1			2
	TECHNICAL STUDIES	1		1				2
DESIGN	CRAFT, DESIGN & TECHNOLOGY		6	2				8
	CREATIVE DESIGN		1					1
	CREATIVE STUDIES						1	1
	DESIGN AND CRAFT STUDIES					1		1
	DESIGN AND TECHNOLOGY		1					1
	TOTAL	1	9	3	1	1	1	16

school both before and after reorganisation, 7 stated that the status had been enhanced by a change in name, 21 stated that the change of name had not been responsible for any change of status - whether raised or lowered - and 4 schools retained the original name.

A similar up-dating of titles to acknowledge the introduction of an element of Design into the courses is evident when a comparison is made, as in Tables 77 and 78, of the pre- and post- comprehensive Craft departmental names.

Craft teachers who were not Heads of Craft Departments were asked if they were satisfied that the current name accurately described the work undertaken in their Craft Department and, if not, to suggest a more suitable title. Some 45 teachers stated that the name did not accurately portray the extent of Craft activities and 27 teachers suggested the alternative titles which are listed in Table 79. The multiplicity of titles, although indicating a search for a precise definition shows a preference for incorporating the terms Craft, Design and Technology and a movement away from the terms suggesting basic Craft studies. One teacher suggested that the description should move away from Craft, Design and Technology to the more primitive idea of Woodwork and Metalwork. This was a protest against the lack of resources in his school which made it impossible for him to conceive of this work as being anything other than instruction in manual skills.

Questions relating to the accurate labelling of the work done by teachers produced verbal comments and marginal notes in questionnaires. These showed sympathy with any attempt to encourage standardization of Craft so that misunderstandings would eventually be removed, but with the rider that initiatives should come from the higher tiers of county and national authority.

TABLE 77: PRE-AND POST-COMPREHENSIVE TITLES OF CRAFT DEPARTMENTS WHERE STATUS HAS BEEN RAISED

SAMPLE = 7 SCHOOLS

PRE - COMPREHENSIVE TITLE	POST COMPREHENSIVE TITLE: TECHNICAL STUDIES	DESIGN AND TECHNOLOGY	DESIGN	CRAFT, DESIGN & TECHNOLOGY
BOYS CRAFT	1			1
CRAFT	1			
HEAVY CRAFT				1
TECHNICAL STUDIES			1	
HANDICRAFT	1	1		
TOTAL	3	1	1	2

TABLE 78: PRE- AND POST-COMPREHENSIVE TITLES OF CRAFT DEPARTMENTS WHERE STATUS REMAINS UNCHANGED

SAMPLE = 21 SCHOOLS

PRE - COMPREHENSIVE TITLE	POST COMPREHENSIVE TITLE: WOODWORK, METALWORK, ETC.	TECHNICAL STUDIES	DESIGN AND TECHNOLOGY	DESIGN	CRAFT, DESIGN & TECHNOLOGY	CRAFT
BOYS CRAFT		1				1
CRAFT		2				
CRAFT EDUCATION					1	
CRAFT STUDIES		1				
CRAFTWORK					1	
HANDICRAFT	1	1	1	1	1	1
TECHNICAL STUDIES					2	1
WOODWORK, METALWORK		3			1	
TOTAL	1	8	1	1	6	4

TABLE 79: NAME SUGGESTED BY CRAFT TEACHERS TO DESCRIBE ACCURATELY WORK BEING UNDERTAKEN IN DEPARTMENTS.

SAMPLE = 27 TEACHERS

		EXISTING NAME						
		TRADITIONAL				DESIGN		
	SUGGESTED DEPARTMENTAL NAME	TECHNICAL STUDIES	WORKSHOPS	WOODWORK, METALWORK, ETC.	CRAFT	TECHNOLOGY	CRAFT, DESIGN & TECHNOLOGY	TOTAL
TRADITIONAL	CRAFT EDUCATION	1						1
	HEAVY CRAFTS			1				1
	TECHNICAL			1				1
	TECHNICAL STUDIES		1		1			2
	WOODWORK, METALWORK, ETC.						1	1
DESIGN	DESIGN	1						1
	CRAFT DESIGN & TECHNOLOGY	6			1	1		8
	CREATIVE TECHNICAL STUDIES	1						1
	DESIGN AND CRAFT	3						3
	DESIGN AND ENGINEERING	2						2
	DESIGN AND TECHNICAL CRAFTS						1	1
	DESIGN AND TECHNOLOGY	1						1
	DESIGN TECHNOLOGY EDUCATION	1						1
	HEAVY CRAFTS AND DESIGN	1						1
	TECHNICAL & DESIGN STUDIES	2						2
	TOTAL	19	1	2	2	1	2	27

It was suggested that the term Technical Studies was a suitable and relatively short title that included all Craft disciplines, but that the term Craft, Design and Technology more accurately illustrated:

a) the trend towards technology,
b) the broadening aesthetic element and re-appraisal of course content,
c) the more varied approach in making and learning with the incorporation of a wider range of skills, and
d) the change in the teachers' approach and attitudes towards the subject matter.

There was also resistance to any suggestion that the name of the Department in any way affected the status given to it.

Other comments were:

a) that the title would not alter the type of work currently being undertaken in a school,
b) that the attitude of the staff in the Department was of greater importance than any change of name,
c) that requests for change of name had been rejected by Headteachers,
d) that obsolete terms were still used in schools, and
e) that, even if the widely used term of Craft, Design and Technology were used, then it would not be understood at all.

Only one teacher related the status of the title to his promotional prospects. He felt that in seeking promotion in

another school, the definition of his role as a teacher of Craft, Design and Technology would imply a higher status than that of a teacher of Woodwork and Metalwork.

Having considered the question of an accurate description of the work undertaken in their Craft Departments, College trained teachers were asked to state if there was any significant difference between the Craft ideology they received in training and their current attitude towards the role of school Craft in our society today.

A total of 101 teachers responded to this question, with 37 stating that, in essence, College training was in tune with the current needs of the pupil, the school and society. However, 64 teachers considered that college training was unsuitable for present day needs and 44 of these gave reasons why this was so:

25 - emphasis was placed on skill rather than on Design,

7 - the needs of society change,

4 - conditions in schools make teaching strategies impossible to implement,

4 - emphasis was placed on Design rather than acquisition of skill, and

4 - training, even at the time it was given, was out of date.

Those who entered Craft teaching from industry or with a non-Craft degree were asked to evaluate the role of school Craft in our society. A total of 63 teachers did so raising different points. The 53 comments favourable to the role that Craft plays were:

40 - the subject helped in the personal development of the pupils,

10 - useful occupational skills were taught [1], and

3 - Craft offered scope for integration with other school subjects.

Forty statements were unfavourable or classified Craft with other low status subjects. These statements were:

18 - school Craft was an irrelevance to the needs of industry,

11 - Craft was underrated by parents and society, and

11 - Craft was underrated by the schools.

All Craft teachers were asked to convert into a single statement of aims and objectives, their many and varied reasons for teaching Craft. Teachers responded to this open-ended request with 341 reasons which could be classified under four broad headings. They were:

216 - providing opportunities for pupils to acquire valuable Craft-oriented experiences:

54 - creativity

53 - transmission of Craft knowledge

50 - manual dexterity

27 - sound craftsmanship

25 - enjoyment in making

6 - education through Craft experiences

1 - examination success

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1. A higher association between school craft skills and pre-vocational training was expected, particularly as this group of teachers had not been exposed to an educational Craft ethos at a College of Education.

50 - making a specific non-Craft contribution to developing in the child:

13 - self confidence

12 - rational thought

11 - social skills

6 - discipline

3 - sound values

3 - communication skills

2 - observation

44 - teaching pupils to appreciate specific Craft values:

18 - technology in society

6 - aesthetics

5 - relevance of Craft in school subjects

4 - constructional activities

3 - skill

3 - value of machines

2 - physical environment of pupils

1 - dignity of craftsmanship

1 - design

1 - cultural heritage

31 - making a general contribution to the development of the child through:

10 - preparation for work

7 - preparation for society

6 - preparation for leisure

5 - providing a complete education

3 - preparation for life

In spite of a century-long tradition that Craft subjects are taught primarily for educational reasons, more than 50% of the responses of Craft teachers relate their aims and objectives to the acquisition by pupils of primary Craft experiences.

Teachers were asked to estimate the progress they had made towards achieving the objectives expressed in the previous question. In all 122 teachers responded to this open-ended question and their replies converted into ten categories are shown in Table 80.

TABLE 80: THE DEGREE OF PROGRESS MADE TOWARDS CRAFT TEACHING OBJECTIVES

SCALE	*DEGREE OF PROGRESS*	*NUMBER OF TEACHERS*	*%*
10	*Perfect*	*1*	*0.81*
9	*Very good*	*10*	*8.19*
8	*Good*	*20*	*16.39*
7	*Moderately successful*	*9*	*7.37*
6	*Occasionally successful*	*55*	*45.08*
5	*Gradual and modest*	*4*	*3.27*
4	*Very little*	*14*	*11.47*
3	*Poor*	*5*	*4.09*
2	*None or failure*	*3*	*2.45*
1	*Regression*	*1*	*0.81*
	TOTAL	*122*	*100 %*

THE TEACHERS' PURSUIT OF FURTHER QUALIFICATIONS

Teachers seek to up-date their specialist knowledge and skills and to add to their qualifications by studying for additional examinations, diplomas and certificates. Their degree of commitment to this and the success of their efforts can effectively raise their status and, at the same time, be a deciding factor when they are being considered for promotion.

Where opportunities for promotion within Departments are limited, teachers, including the specialist Craft teachers, can seek advancement in posts of pastoral and administrative responsibility in the comprehensive school. Because of its complex organisation, the comprehensive school has more levels of hierarchy than schools in pre-comprehensive days when the few senior positions of responsibility were invariably filled by teachers of academic subjects. (1)

Craft teachers in Essex, for simple or complex reasons, attend courses sponsored by the Department of Education and Science, the Essex Education Committee and professional organisations to up-date their Craft knowledge and skills. They also undertake courses of study which lead to academic qualifications.

Craft teachers who are currently serving in Essex comprehensive schools have attended Department of Education and Science summer

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1. Only one Craft teacher recorded promotion to a senior management position in an Essex secondary modern school before the introduction of comprehensive reorganisation.

schools and other full-time courses during the term at Shoreditch, Loughborough, Trent Park, Chichester and Slough Colleges and also at Keele and Nottingham Universities. Course titles have included:

Raising of the School Leaving Age,

Integration of Home Economics, Art, Technical Studies and Needlework,

The Changing Face of Craft,

The Role of the Head of the Craft Department,

Design, and

Technology in the School Curriculum.

Some Essex Education Authority courses for Craft teachers are full-time for one or two days' duration. Others consist of a short series of afternoon sessions during term time or, more usually, a series of evening sessions covering several weeks. The courses are primarily concerned with up-dating skills and knowledge, particularly for those teachers who will be responsible for teaching the new courses in Technology in their schools. More recently they have concentrated on the safe use of Woodworking and Metalworking machinery and welding equipment and the implementation of the Health and Safety at Work Act.

The third, and most regular, source of professional support for Craft teachers is through the activities of the Educational Institute of Design, Craft and Technology - a title that has been derived successively from the Institute of Craft Education, the Institute of Handicraft and the National Association of

Manual Training Teachers, which was founded in 1891. At County level, regular meetings of the Institute are held in different schools in the county. Members receive the latest information on all aspects of Craft education, take part in practical Craft sessions, attend lectures given by visiting speakers and take part in discussions concerning professional and educational matters including the subject of curriculum development. As the meetings are also attended by members of the County Craft Inspectorate, who are all members of the Institute, there is ample opportunity for the exchange of views. This was particularly relevant during the early stages of the introduction of Technology into schools. County staff were given the opportunity to attempt to overcome the resistance to change expressed by many practising teachers.

One such meeting held in 1980 (1) was devoted to the problem of setting up a technology course in a comprehensive school. It was organised and conducted by the teachers of the school who had recently been involved in the complicated process. From personal experience, the teachers were able to:

a) offer guidance on matters of timetabling and finance,

b) explain the examination syllabuses and contents of the teaching modules,

c) outline the progress of their own pilot scheme,

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1. See report of meeting in LACEY, R. (1980) Setting up a Technology course

d) report on the integration with the Science Department, and

e) give examples of the involvement of parents who had particular expertise in industrial technology.

This was followed by a visit to the school workshops where examination pupils were available to display their major technology projects and to discuss aspects of coursework with the visiting teachers. The meeting concluded with a searching discussion which included comments from the Senior Adviser in Craft, Design and Technology in Essex.

At national level the Education Institute of Design, Craft and Technology provides its members with regular issues of its professional Journal. By 1984, the Journal will have changed its title five times to reflect the subtle changes in the image of Craft education and to represent more accurately what teachers feel is the substance of their work. Because the Journal is also available to non-Craft teachers, the title also reflects the image Craft teachers wish to present to others.(1)

An integral part of the Educational Institute of Design, Craft and Technology is the College of Craft Education. This has been assigned two major roles - both of which are designed to raise the status of the teacher as a craftsman and as an academic. The College provides for an annual two week summer school where,

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1. 1901 - Manual Training Teacher; 1908 - Manual Training; 1923 - Practical Education and School Crafts; 1965 - Practical Education; 1984 - Design and Making.

upholding the values and traditions of craftsmanship, creative work in many media is directed by expert artists, craftsmen and designers. This is linked to a programme of lectures given by educationalists and craftsmen of national and international repute.

The College also provides on-going courses which meet the needs of those who seek to expand their previous knowledge and understanding by studying for specialist diplomas in Craft education through home-based study modules in philosophy, history, organisation and management, design and technology. The recognition of the Open University's Technology course as an essential module of study for College qualifications has added greatly to the status of the courses.

The range of subjects offered by the three agencies for the provision of further Craft study is vast. In all 81.32% of all Craft teachers who responded to the questionnaires have taken advantage of the facilities offered to improve their practical and theoretical knowledge and their professional competence.

Craft teachers in Essex comprehensive schools have also gained further academic qualifications and recreational coaching awards as a result of part-time and evening class study.(1)

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1. Teacher questionnaires reveal that applications for leave of absence to enable full-time study to be undertaken are refused to Craft teachers, but are granted to teachers of academic subjects.

69 teachers provided details of non-Craft courses of study undertaken since their entry into teaching. As a result of these:

14 teachers obtained degrees,

10 teachers are currently studying for degrees,

12 teachers obtained Diplomas of Education,

3 teachers received Associate or Licentiate awards from the College of Preceptors,

1 teacher received an award from the College of Craft Education,

16 teachers received awards as a result of study for individual academic subjects,

13 teachers received recreational coaching awards.

The refresher course remains an acceptable method of providing teachers with a short intensive period of study that is directly related to the subject specialism of the teacher. Craft teachers in the sample were asked to indicate the relative importance they placed on the roles of such courses where these roles were stated to be:

a) to re-train the teacher - broadly defined as modernising the practical skills of the teacher,

b) to up-grade knowledge - broadly defined as modernising the theoretical knowledge of the teacher, and

c) to change the ideology of the subject - substituting for traditional objectives those more in keeping with our technological society. (1)

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1. One teacher added a fourth role to those given: to re-appraise acceptable behaviour standards.

44.47% teachers consider that the primary aim of the refresher course is to up-grade knowledge, 31.10% consider that the aim should be to change the ideology of the subject and 24.41% thought that the main aim of refresher courses was to re-train the teacher.

In addition to the formal pattern of study that is a feature of many of the meetings of teachers, the semi-social aspect of the gatherings can be rewarding to teachers who use their membership of societies and organisations to add to their knowledge and skill. 34 teachers (20.11%) returning questionnaires belong to a Craft society or organisations, 19 of these to the Educational Institute of Design, Craft and Technology. 24 teachers gave the following specific reasons why they valued meetings with professional colleagues:

15 - the interchange of ideas with colleagues,
3 - the opportunity to observe teaching techniques,
2 - the opportunity to visit other schools,
1 - visits to local industries,
1 - stimulation of enthusiasm,
1 - broadening of one's outlook, and
1 - talks by guest speakers.

A feature of the traditional method of teaching school Craft in the pre-comprehensive era was the necessity for a teacher to produce his own detailed scheme of work. This consisted of a series of practical exercises - or more familiarly 'models' - that were graduated to conform to the age, ability and

aptitude of all pupils that the teacher would be called upon to teach. Teachers in comprehensive schools who teach Craft by the traditional method still compile schemes of work which closely follow this pattern. An important function of the regular meetings of Craft teachers that are held in different schools is that visiting teachers can consider whether any work on view is suitable for inclusion in their own scheme of work.

Similarly, the workshop library can be inspected for sources of inspiration. Since the publication of books by Ricks [1] and Barter [2] at the end of the last century, examples of suitable models have been available and have played an important part in perpetuating the teaching of traditional Craft in schools. Prime examples are Gregory's two books with print runs of 25,200 and 33,000 copies.[3] Both books, together with models under construction, were seen in schools during the research visits - these being fifty years after the date of the original publication.

A feature of the problem-solving method of teaching Craft has been the abundance of descriptive articles and reports of experiments that were designed to justify its inclusion in the activities of the school workshops.

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1. RICKS (1889) Hand and Eye Training
2. BARTER (1892) Woodwork: the English Sloyd
3. GREGORY (1928) The Art of Woodwork and Furniture Making. 25,200 copies sold.
   GREGORY (1933) Constructive Woodwork for Schools. 33,000 copies sold.

These articles and reports were mainly the outcome of work done in particular Craft Departments throughout the country and were recorded as contributions to the Practical Education Journal over a period of years. Of particular significance to the introduction and development of design-based, problem-solving Craft was the publication of two major reports. These were produced at a time when comprehensive reorganisation was being introduced and when educational debate was concerned with the content of the comprehensive school timetable and the value of Craft education within the comprehensive school. Both reports sought to influence those who were concerned with Craft teaching and to persuade them to exchange the traditional subject approach to Craft for one where problem-solving would play a major role in the activities of the school workshops.

The first, A SCHOOL APPROACH TO TECHNOLOGY was the Report on Project Technology.[1] This was initiated following widespread concern about the economic and social consequences of the deficiency of technological studies in the school curriculum. It had the fundamental aim of helping young people to come to grips with technology as a major influence in society and also helping them to use it effectively and to obtain satisfaction from it.

As the first and largest of the research and development projects

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1. Based at Loughborough College of Education in the period 1967 - 72 with a budget of £287,500.

in the design education field, it could be considered essential reading for teachers who were being called upon to make judgements as to whether a virtually new subject should be included in the activities of their Department. Of the sample of 167 teachers, 93 (55.68%) have studied the Report.

The second Report was DESIGN AND CRAFT EDUCATION and was an account of the 'Keele Project'.[1] This was totally different in concept from Project Technology. The Keele Project investigated the wide range of school activities with materials in Departments that stretched from Art to Applied Science and Technology. Special emphasis was placed on those activities that were based on Woodwork and Metalwork resources in the schools and the way they could be developed in a problem-solving context. The aim of the Project was to extend existing work with materials for which schools had already allocated resources, timetable time and specialist teachers. The aim was not to introduce a new subject area into the school timetable. The Report could be considered as essential reading for teachers who were being asked to change their ideology of Craft teaching. Of the sample of 167 teachers, 63 (37.72%) have studied the Report.

56 teachers (33.53%) have studied both Reports.

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1. Based at Keele University in the period 1968 - 73 with budget of £73,710

SUMMARY

The craft education of the teacher is derived from many sources. Whether he received it from College or through industrial experience may affect his opinion of his role as a Craft teacher and the role of the subject within the school.

The challenge to traditional Craft in schools by design-based approaches can cause problems when the training of the teacher is in conflict with the form of Craft taught in his school.

Names of College courses, school Craft Departments and Craft subjects have been changed to present a more accurate image of the activities embraced by these courses to pupils, parents and employers. One third of all Craft Departments now include the term 'Design' in their title.

The expressed aims of the teacher for his subject show that, whereas he wishes his work to make a contribution to the overall development of the pupil, his main concern is that of transmitting Craft ideology.

In pursuit of further knowledge, the teachers can attend refresher courses held at national and local level, where, apart from the formal activities, the exchange of ideas with colleagues plays an important part in the proceedings.

11. FACTORS AFFECTING THE AIMS OF CRAFT EDUCATION

IMPLEMENTATION OF AIMS

The implementation of the aims of Craft education is affected by factors which are external and internal both to the school and the Craft Department. In formulating and presenting their aims, Craft teachers, and particularly Heads of Departments, will need to be fully aware of any constraints that these factors may have on the achievement of these aims.

The provision of resources of specialist teachers and workshops is usually the result of decision-making at county or national level. The allocation of capitation, teaching groups, access to the curriculum and timetable time is the result of decision making at Headmaster and senior Management level. Working within these limitations the Head of the Craft Department retains responsiblity for course content and teaching within his Department. He may be influenced by examination syllabuses, pressures by Headteachers, advisers and Craft colleagues. He can delegate responsibility for syllabus content to members of his Department and they, in turn, may see their status as being interwoven with this responsibility.

The aims of the Head of the Craft Department can be achieved if he is provided with adequate resources in the form of teachers, workrooms, curriculum time, capitation and pupils from the complete range of ability. The inadequate provision of any one of these will have direct repercussions on all of the

others. Such a situation will affect the number of courses that are available to pupils and will make impossible the expansion of the Department's activities to meet the current needs of the pupils. It will also contribute to the lowering of status of the Department within the school.

THE PROVISION OF SPECIALIST TEACHERS

Heads of Craft Departments reported that their Departments were deficient by a total of 26 staff according to staffing allocations existing in the schools at the time of the research visit. This figure does not take into account:

a) the employment of teachers within the Department who are not specialist Craft teachers,

b) the employment of unqualified teachers,

c) the use of instructors,

d) the excessive workload of some teachers, and

e) the closing of some school workshops because of the shortage of specialist teachers.

If these factors were added to the calculation then the estimate by Barnes [1] that the County required a further 100 specialist Craft teachers would be entirely realistic and is supported in discussions with Heads of Departments during the course of this research. The national shortage of Craft teachers is, according to Dalton, influenced by:

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1. See footnote p. 251

a) the status accorded to the subject area by different groups, and

b) the diminishing number of secondary schools pupils choosing the subject at the end of their third year.(1)

The outcome of Craft teacher shortages in Essex comprehensive schools is evident where:

a) teachers in other creative specialisms are appointed to Craft vacancies to maintain the general staffing levels of schools,

b) there is a tendency to appoint Art teachers to fill Craft vacancies but still to teach Art; there is the added incentive that they will teach their subject to full classes compared with the 'half classes' taught in Craft subjects,

c) County officials, seeking to reduce expenditure, have closed workshops that were under-used because of a combination of staff shortages, falling rolls and a change to a more academic curriculum for the majority of pupils.(2)

d) the closure of workshops has resulted in fewer courses being made available to 4th, 5th and 6th form pupils.

e) a reduction in the number of courses has reduced the number of pupils being taught in the Departments, and

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1. DALTON (1975) The Supply of Design and Craft Teachers
2. The closure of a Metalwork or Engineering Workshop is particularly advantageous financially since maintenance costs are higher than with Woodwork shops.

f) fewer pupils being taught has resulted in the inevitable reduction of allowances of curriculum time and capitation.

Heads of Departments have reported in discussions:

a) their dissatisfaction with the quality of some new entrants to the profession, particularly where this affects the maintenance of good discipline in the Department,

b) their own antagonism towards the appointment of teachers brought into the schools from industry,[1] and

c) the growing use of teachers who are either employed on a part-time basis or, because of their non-teaching duties, only teach Craft for part of their personal timetable.

It is paradoxical that in the development of the management structure of the comprehensive schools, promotions of experienced teachers to posts of administrative and pastoral responsibility have been accompanied by allocations of timetable periods to enable them to attend to these duties. This action not only deprives the Department of the maximum use of the expertise of the teacher, but, in keeping with the current trend to reduce the total number of teachers in schools, makes it unlikely that replacements will be provided, even on a part-time basis.

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1. In one school, five of the six Craft staff are from industry.

The promotion, salary scales and status of teachers are linked with:

a) the extra responsibility taken by teachers in their own Departments and/or

b) the amount of pastoral and administrative work that is undertaken within the school.

Table 81 shows the pattern of duties and extra duties that are undertaken by 143 Craft teachers who were prepared to disclose their salary scales in the questionnaires and also to give details of their Craft, pastoral and administrative responsibilities. The incidence of financial reward being given for extra work is evident in that the majority of teachers with salary scales 2 and 3 have specific responsibilities within their Department and, as Form Teachers, also attend to the well-being of complete classes of boys and girls. The Table also shows that the promotion to senior posts is possible [1] and, additionally, it is recorded that at least two Headteachers in Essex commenced their teaching careers in school Craft Departments.

Two factors are significant when assessing the status of Craft teachers who hold senior posts. These are that:

a) senior positions are now seen by teachers of academic subjects, parents and pupils to be associated with Craft teaching whereas, hitherto, senior posts of responsibility would invariably be held by teachers of academic subjects,

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1. Before comprehensive reorganisation the advancement of Craft teachers to senior posts of pastoral and administrative responsibility was an exception in the County

TABLE 81: SALARY SCALES OF CRAFT TEACHERS LINKED WITH CRAFT, PASTORAL AND ADMINISTRATIVE RESPONSIBILITIES
SAMPLE = 143 CRAFT TEACHERS

CRAFT TEACHER +		PASTORAL AND ADMINISTRATIVE RESPONSIBILITIES																		
		CRAFT TEACHER +						HEAD OF NON-CRAFT DEPARTMENT+			HEAD OF YEAR OR HOUSE +			HEAD OF LOWER / MIDDLE / UPPER SCHOOL +			SENIOR TEACHER +			DEPUTY HEAD - MASTER
		NUMBER OF EXTRA DUTIES						NUMBER OF EXTRA DUTIES												
		0	1	2	3	4	5	0	1	2	0	1	2	0	1	2	0	1	2	
CRAFT TEACHER +	NUMBER OF CRAFT RESPONSIBILITIES 0	111111 11 2	11111 22222					3	3 4	3		4			4	4	8			DH
	1	1 222222 22222 3	111 222222 222222 222222 333333 33	22222 33				3			444					4				
	2	333	22222	2 3																
	3		2																	
	HEAD OF DEPART.	333333 3 444444	333333 3 444444	3 4	44	33 4	3				4	44						8		
	HEAD OF FACULTY	444444	444								8	4						8		

and

b) six schools rate the status of their Head of Craft Department equal to that of the Heads of Mathematics, English, Science and Language Departments and require them to undertake no extra duties to justify their scale 4 salary.

A detailed study of the status of all Heads of Departments within a school, based solely of their salary scales, would give a definitive result for comparative purposes. Complete lists of salary scales for teachers within the schools are not available for research purposes and, in many cases, are not available to members of staff within the schools.

THE PROVISION OF SPECIALIST WORKSHOPS

However limited or expansive the aims of the Head of the Craft Department may be, the implementation of these aims is determined by the quantity and quality of the specially equipped workshops. These are usually provided without any reference to those who are required to use the facilities. Craft teachers generally acknowledge the logistical problems that arise when two schools that are situated in different parts of a town are merged into one comprehensive school so that the newly formed Craft Department has workshops on separate sites. They are also aware that severe financial constraints imposed throughout the County during the whole period of comprehensive reorganisation have contributed to the production of workshops that are inferior,

in many cases, to those constructed in secondary Modern and Grammar schools.[1] However, the most vituperative comments made by teachers during the programme of research visits to all 90 workshop complexes were reserved for the County officials who were held responsible for the creation of areas that were potentially dangerous to pupils because of errors in planning, building and conversion of workshops and for those who made mistakes in the provision, location and installation of machinery.

Teachers were not asked to comment on factors that affected their own and their pupils' working conditions. Yet teachers at 40 schools (44.44%) made spontaneous observations relating to serious basic defects in workshop planning over which the teachers had no control and no power of change. The examples given, shown under three headings, illustrate the nature and extent of the complaints which affect the implementation of the aims of the teachers.

POOR PLANNING resulting in:

a) the difficulty of the Head of Department exercising adequate control over the workshops when they are situated in different parts of the school campus,

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1. Comprehensive schools that were Technical schools before reorganisation have suites of workshops that, invariably, now exceed the demand for them and are therefore under-used.

b) the difficulty in providing a balanced Craft education where there is an imbalance of Woodwork and Metalwork workshops,

c) the non-use of valuable workshop project space where the area forms part of the main concourse for all pupils, and

d) the potential dangers caused by adjacent workshops being built at different ground levels.

POOR DESIGN OF WORKSHOPS where:

a) teachers are unable to have all pupils in view, particularly in 'L'-shaped workshops.

b) the newly introduced cost-saving heat-treatment area that is shared by adjacent workshops results in pupils being under-supervised by either teacher, and

c) the extensions for Motor Vehicle Studies are constructed without heat, power or protection from the elements.

OVERCROWDING IN WORKSHOPS caused by:

a) the inadequate size of workshops,

b) the dual use of workshops necessitating space being used for storing equipment for two subjects, and

c) the storage of unfinished work in workshops because of the lack of adequate store rooms.

These factors, together with workshops being ill-equipped, inadequately serviced, undecorated and dirty, make the social training of pupils in matters of health and safety difficult to pursue and enforce. The problem of overcrowding in particular can contribute to behavioural problems within the teaching groups.

In contrast to the low morale of teachers in some schools there is ample evidence of concerted and prolonged efforts being made, in their own time and over several years, by Heads of Departments and Craft teachers at other schools to overcome these problems and to attend to aspects of working conditions over which they can exercise control. These include:

a) attending to the tidiness of workshops, stores and tool cupboards,
b) regular maintenance of machinery and equipment,
c) the racking and colour coding of hand and machine tools,
d) the arrangement of work of the pupils in display cabinets, and
e) the provision and upkeep of library and design facilities.

Heads of Craft Departments and Craft teachers were asked to relate the provision of specialist workshops to their current courses and the possible expansion of the activities of their Departments. They were first asked if the workshop facilities were adequate for the work currently being undertaken. Their responses, shown in Table 82, indicate that approximately two-thirds of Heads of Departments and three-quarters of Craft teachers were, either through design or imposition, teaching within the limitations of the available resources.

Heads of Departments and Craft teachers were then asked to state if they wished to expand the activities of their Departments by adding to the existing number of courses already offered. Their responses, recorded in Table 83, show that

TABLE 82: ADEQUACY OF WORKSHOP FACILITIES FOR CURRENT WORK

	HEADS OF DEPARTMENT	CRAFT TEACHERS
SAMPLE	57	164
ADEQUATE FACILITIES	36	119
% OF SAMPLE	63.15	72.56
INADEQUATE FACILITIES	21	45
% OF SAMPLE	36.84	27.43

TABLE 83: THE DEVELOPMENT OF NEW CRAFT COURSES

	HEADS OF DEPARTMENT	CRAFT TEACHERS
SAMPLE	57	152
NEW COURSES SHOULD BE DEVELOPED	43	97
% OF SAMPLE	75.43	63.81
NEW COURSES SHOULD NOT BE DEVELOPED	14	55
% OF SAMPLE	24.56	36.18

approximately three-quarters of Heads of Departments and two-thirds of Craft teachers would approve of such expansion.

Heads of Department and Craft teachers were asked to state the titles of new courses they would wish to introduce to their Departments and also to indicate if the workshop facilities were adequate to cater for these. Table 84 gives a summary of the 43 responses of Heads of Departments and Table 85 a summary of the 97 responses of Craft teachers. The high priority given by both groups of teachers to the introduction of courses in

TABLE 84: NEW COURSES PROPOSED BY HEADS OF DEPARTMENT.
SAMPLE = 43 HEADS OF DEPARTMENT
68 COURSES

COURSE TITLE	FACILITIES		TOTAL
	ADEQUATE	NOT ADEQUATE	
TECHNOLOGY	5	10	15
MOTOR VEHICLE STUDIES	5	4	9
ENGINEERING	4	5	9
GRAPHICS	3	5	8
DESIGN AND TECHNOLOGY	4	2	6
ELECTRONICS	1	2	3
DEVELOPMENT OF ALL COURSES	1	2	3
UPPER SCHOOL RECREATIONAL	2		2
PLASTICS	1	1	2
HOUSEHOLD MAINTENANCE	1	1	2
COMBINED MATERIALS	1	1	2
REMEDIAL LINK WITH SCIENCE	1		1
ART METALWORK	1		1
MECHANICS	1		1
PAINTING		1	1
FOUNDRY WORK		1	1
MATERIALS STUDY		1	1
BUILDING		1	1
TOTAL	31	37	68
	45.58%	54.41%	

TABLE 85: NEW COURSES PROPOSED BY CRAFT TEACHERS.

SAMPLE = 97 TEACHERS

132 COURSES

COURSE TITLE	FACILITIES		TOTAL
	ADEQUATE	NOT ADEQUATE	
TECHNOLOGY	6	17	23
MOTOR VEHICLE STUDIES	6	7	13
NON-EXAMINATION	8	3	11
PLASTICS	5	6	11
COMBINED MATERIALS	1	9	10
DESIGN AND TECHNOLOGY	5	4	9
SIXTH FORM	3	5	8
ENGINEERING	4	4	8
ELECTRONICS		7	7
BUILDING	1	5	6
SILVERSMITHING	4	2	6
GRAPHIC COMMUNICATIONS	2	4	6
JEWELLERY MAKING	3	2	5
HOUSEHOLD MAINTENANCE	1	1	2
BOATBUILDING		1	1
TECHNICAL STUDIES FOR GIRLS	1		1
PAINTING AND DECORATING		1	1
RURAL CRAFTS		1	1
CERAMICS		1	1
FOUNDRY WORK		1	1
WELDING		1	1
TOTAL	50	82	132
	37.87%	62.12%	

Technology and Motor Service Studies accounts for 30% of the total number of ways in which Craft activities could be increased. Adequate workshop facilities exist for 40% of all proposed new courses but their introduction is delayed either because of insufficient time available to existing teachers or because of a shortage of teachers in the Departments.

Not all teachers view with enthusiasm the prospect of new courses being added to the existing workload of the Department. A significant minority oppose any introduction of new courses until:

a) a corresponding increase in salary is made, and

b) teachers are adequately re-trained to become competent to teach the proposed new subjects.

THE PROVISION OF TEACHING GROUPS

Since the primary function of the school is to serve the community in which it exists, the aim of a teacher in developing his subject can be affected by the influence of factors that are external to the school. Most important and basic of these factors are the educational potential of the pupils in the catchment area of the school and the degree of support that parents of these pupils are willing to extend to their children and to the school.

Attempts are made to categorise catchment areas according to the socio-economic status of the families and the

expected educational level of the children for the purpose of curriculum development. These exercises become less meaningful with the increased movement of the population both generally and in particular instances.(1) The introduction of private and council housing estates into the catchment area can alter the social mix of the families. The break up of families can alter the degree of support the remaining parent can give to the school.(2) The extent of the catchment area, particularly in rural districts can affect the attendance of pupils at after school activities and of parents at evening meetings. Thus the aims that the Head of Department has for his teaching groups - whatever their composition - are initially pitched to take into account the influences that are external to the school. They can then be modified to match any degree of success he may have in changing those factors that are internal. For example, in the Lower School certain strategies can be employed by the school to make the Craft teaching groups unrepresentative of the school population. These strategies include:

a) the omission of Craft from any year in the curriculum,

b) the provision of academically biased curricula for streamed and banded pupils,

c) the exclusion of girls from Craft courses, and

d) changing the composition of teaching groups during the course of the year.

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1. 50% of all pupils in one school are from the families of servicemen and are therefore subject to movement from the school, the catchment area and the country at short notice.

2. It is not now uncommon in some schools for one child in five to come from a broken home.

In the Upper School the strategies employed by the school to make the option groups in Craft unrepresentative of the school population include:

a) the editing of options information packs to reduce the appeal of Craft,

b) the listing of Craft with specialist academic subjects in a compulsory option block,

c) the inclusion of academic subjects in a compulsory Craft option,

d) the direction of pupils of low-academic ability to Craft and Creative option subjects,

e) the direction of pupils with high academic ability away from Craft and Creative option subjects,

f) the vocational counselling of girls to follow the more traditional subjects of Domestic Science and Needlework, and

g) the failure to provide Craft for Sixth Form pupils at both recreational and G.C.E. 'A' level, even though resources are available.

Conversely, within the Craft Departments, some Heads of Departments consciously contribute to the problems of reduced numbers of pupils in the 4th and 5th years, the poor achievement of skills and the low status of the subject. They exercise a form of 'Craft-denial' by:

a) sacrificing the pupils' progress in the acquisition of skills by giving tuition in Mathematics, English and Physics during Craft lessons to pupils of low academic ability,

b) restricting pupils to only one Craft option,

c) encouraging pupils of high academic ability to opt for academic subjects which, compared with Craft subjects, will be of greater vocational value,

d) reminding Fifth Form pupils of the values of apprenticeship rather than of achieving success in Sixth Form Craft qualifications which have dubious value, and

e) placing no emphasis on the value of Craft as pre-vocational training because of the absence of employment opportunities locally.

A summary of the discussions held during the research visits produce an overview that the low morale of Heads of Craft Departments and Craft teachers is caused, primarily, by the lack of any real progress in the campaign to make Craft teaching groups throughout the school more equitable. A second contributory factor was, until the introduction of the Health and Safety of Work Act, overcrowding in school workshops. This problem was commonplace in schools during the various bulges in school populations and remains so in varying degrees and even with the falling rolls in schools.

37 schools (41.11%) record instances where teaching groups in school workshops regularly exceed the number of places for which the workshops were designed - namely twenty. 21 of these schools refer to overcrowded Craft classes in the Lower School, 10 to classes in the Upper School and 6 refer to classes in all years. By involving the Health and Safety representatives in

the schools, other Heads of Craft Departments have been successful in reducing Craft group numbers to a level that was in existence at the end of the last century when Manual Training was being introduced.

The difficulty in solving the problem of overcrowding in workshops is illustrated by the extreme attitude of one Headmaster who stated that, since there is no safety level insisted on by the County or the Department of Education and Science, then decisions regarding numbers in Craft groups must rest with the Headteacher and that classes of up to 30 pupils would not be unreasonable. A more compromising and conciliatory attitude is adopted by four Heads of Department who state that overcrowding is permissable if it does not interfere with safety and that it is the function of the Craft Department to teach those pupils who are sent to it. Headteachers are being convinced that the anxieties of teachers concerning overcrowding are justified when related to the safety of pupils. Similarly, disciplinary problems can be exacerbated by the increase in the numbers of pupils with poor motivation.

Teachers were asked to state what should be the maximum number of pupils in their teaching groups, using their professional experience as the sole guide. Table 86 gives the views of 156 teachers and shows a blending of optimism with realism by the minority of teachers. The majority of teachers are being called upon to increase the teacher-pupil discussion component of their lessons because of the adoption of problem-solving teaching

TABLE 86: OPTIMUM SIZE OF TEACHING GROUPS IN SCHOOL WORKSHOPS.
SAMPLE = 156 TEACHERS
806 RECOMMENDATIONS.

SIZE OF GROUP	NUMBER OF RECOMMENDATIONS FOR YEAR						TOTAL	%
	1	2	3	4	5	6		
19 - 20	47	43	23	8	9		130	16.12
17 - 18	28	27	26	13	10		104	12.90
15 - 16	63	68	76	69	71	2	349	43.30
13 - 14	6	6	10	18	16		56	6.94
11 - 12	12	10	19	33	31	4	109	13.52
9 - 10		2	2	15	19	9	47	5.83
7 - 8						9	9	1.11
6						2	2	0.24
TOTAL							806	100 %

strategies. 92.80% of all recommendations shown in Table 86 support the traditionally held view that teaching groups can, in fact, be too small and that classes of less than 12 pupils lack the means of creating an atmosphere that is necessary for good teacher-class relationships to flourish.

Craft teachers were asked to associate the size of the teaching group with the standard of behaviour in the workshops. Of the 166 responses, 117 (70.48%) accepted a direct link between the reduction in group numbers and the maintenance of good discipline. Supplementary comments emphasised that good workshop and classroom discipline were directly linked with the standard of discipline in the school generally.

Teachers were asked to consider whether the size of the teaching group had any bearing on the close pupil-teacher relationship in the workshops. Of 166 responses, 126 (75.90%) considered that smaller classes contributed significantly to this relationship.

THE PROVISION OF CAPITATION

In the majority of Essex comprehensive schools, Headteachers allocate a proportion of the capitation grant to Faculty and Departmental Heads.[1] A comparison of the amount of capitation paid is used by Heads of Department to assess the relative status of their subjects in the school - even though complete lists are not always available for this to be done with any degree of accuracy.

Because the matter of capitation awards was known to be highly sensitive and treated with great secrecy within the schools, this area of study was not included in the original plan for the research. Discussions during the research visits revealed a deep-rooted resentment by teachers that the alleged unfair allocation of capitation inhibited their work. Requests were made to include this topic in the programme of research. Since many schools restrict the publication of this information, even for internal use, this important factor in the allocation of resources remains excluded from the research.

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1. In a very few schools, Heads of Departments decide on this allocation.

The example shown in Table 87, the only instance where the statistics were offered, has been modified to show the percentage of the total capitation that was distributed to all Departments. The contributory factors of the numbers of subjects covered, pupils taught and curriculum time and the need to replace tools, equipment and apparatus are not indicated. The list, as published, shows the limitations of using these statistics to assess accurately degrees of status of subjects and Departments.

TABLE 87: EXAMPLE OF AN ALLOCATION OF CAPITATION GRANT TO DEPARTMENTS WITHIN A SCHOOL

DEPARTMENT TITLE	*PERCENTAGE OF TOTAL CAPITATION ALLOCATED*
HUMANITIES	*17.05*
SCIENCE	*14.69*
LANGUAGES	*12.78*
ENGLISH	*11.80*
MATHEMATICS	*11.28*
VITH FORM STUDIES	*6.40*
PHYSICAL EDUCATION	*6.06*
ART	*5.68*
TECHNICAL STUDIES	*5.26*
DOMESTIC SCIENCE	*4.03*
MUSIC	*2.59*
REMEDIAL	*2.33*
TOTAL	*100 %*

What has emerged in discussions with Heads of Departments, when they revealed the amount of their capitation allowances, is

the existence of four financial problems which affect the functioning of their own Department. These are:

a) the great variation of capitation allowances, from £200 to £2,000 per annum, not only between schools of different size but also between schools having comparable populations,

b) the difficulty schools now have or will have in funding new courses, including those in Technology, from existing levels of finance,

c) the growing resentment of Heads of Departments who are compelled to obtain gifts of materials from local industrial workshops and factories in order to maintain Departmental supplies, and

d) the un-educational procedure whereby pupils are encouraged to design Technology projects and later told to alter specifications because the Department is unable to afford the cost of the components and materials selected.

THE COMPILATION OF CRAFT SYLLABUSES

The teacher's perception of his status in his Department can be influenced by the degree to which he is permitted to contribute to the compilation of Departmental syllabuses. He can also assess the satisfaction he received from teaching by taking into account the degree to which he can interpret the requirements of syllabuses in his personal schemes of work.

Craft syllabuses are divided into two groups. The first consists of Lower School courses and non-examination courses in the Upper School and will be compiled under the direction of the Head of the Craft Department. The second group consists of syllabuses published by Examining Boards. Here, the responsibility of the Head of Department will be to ensure that the requirements are adequately met by individual schemes of work.

Formal syllabuses are produced by 75 Craft Departments (83.33%) with Craft teachers in the remaining 15 schools being free to develop work according to personal interests and experiences. In schools where syllabuses are produced, teachers, particularly new members to the Department, are encouraged to contribute to their compilation at Departmental meetings held annually for this purpose. (1) In the great majority of schools, frequent informal meetings and comparisons of work produce a consensus that enables teachers to have similar schemes of work.

A contribution to the self-esteem of Craft teachers is that all but two Heads of Departments (2) allow Craft teachers to interpret the requirements of the syllabuses in their own way. This allows for maximum experimentation, the injection of particular

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1. One large comprehensive school has an annual one-day conference when this process is undertaken by all teachers in all Departments.
2. These provide compulsory syllabuses from which there must be no deviation.

interests of teachers into their courses and the development of their Craft philosophy.

From a total of 420 full-time and part-time teachers of Craft in Essex comprehensive schools, only 10 teachers would be constrained from introducing new ideas into their teaching during the course of the year.

Craft teachers were asked if syllabuses placed any constraints on the content of the courses they taught. Of 164 teachers who responded, 105 (64.02%) considered that syllabuses did not hinder their work. 59 teachers (35.97%) thought that syllabuses, particularly examination syllabuses, did inhibit their Craft activities.

Craft teachers were also asked to give details of courses they had introduced into their Departments as a result of their experience in particular aspects of Craft. 36.68% of all teachers returning questionnaires were instrumental in introducing new courses into their Departments and these courses included Boatbuilding, Building Drawing, Cabinet Work, Combined Materials, Coppersmithing, Design, Engineering, Graphic Communications, Metalwork, Motor Vehicle Studies, Musical Instrument making, Plastics, Static Steam Engine Construction, Technical Studies Foundation, Technology, Woodturning and Wrought Iron Work.

CRAFT COURSES FOR REMEDIAL PUPILS [1]

Any contribution a Department makes to the educational development of remedial pupils within a school should be (but is rarely) considered when the status of a Department is being evaluated. Schools can extend the concept of a balanced education for all pupils to include remedial pupils and insist that suitable courses are provided not only in Mathematics and English, but also in Science, Languages and Humanities rather than make the curriculum for remedial pupils heavily biased towards practical subjects.

The traditional use of practical subjects to develop a remedial child's general education is widely acknowledged and defended by teachers of practical subjects who see their contribution to this process as being particularly valuable.

Heads of Craft Departments were asked to state what special provision the school, the Department and Craft teachers make and what strategies are employed to cater for remedial pupils. Heads of Departments in 31 schools (34.44%) stated that no special provisions are made since all Craft pupils throughout

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1. The term used here describes all pupils who have learning difficulties sufficiently acute to warrant them being withdrawn from the mainstream timetable for special tuition. The identification of the group can be no more specific since there is no standard test or descriptive title common to Essex comprehensive schools. One comprehensive school denies having any 'remedial', 'slow learners' or 'backward' pupils.

the school are taught in mixed-ability groups. 10 schools (11.11%) are able to keep remedial pupils in small teaching groups and 5 schools (5.55%) send pupils for additional Craft instead of having them study a foreign language. Craft Departments in 6 schools provide special non-examination courses for remedial pupils in the 4th and 5th year, with the academic content reduced and the practical work very basic in design and construction.

Examples of personal involvement of teachers with remedial pupils come from schools where:

a) the Head of Department, the most experienced teacher in the Department, teaches all remedial pupils,
b) extra-curricular clubs for remedial pupils are held, and
c) teachers forfeit non-teaching periods to enable all remedial classes to be taught by two teachers instead of one.

EXTRA- CURRICULAR CRAFT ACTIVITIES

Apart from the contribution the Craft Departments make towards the balanced education of the pupils, Craft activities can be linked to a child's social development. In instances where the work done is for the school or the local community, such activities can help the development of the child's social conscience.

In many practical subjects, pupils are not forbidden to move about as they might be in formal lessons conducted in classrooms.

This freedom of movement gives scope for social interaction between pupils as well as between individual pupils and the teacher. This is particularly evident in Craft teaching where the succession of problems being encountered by pupils in every lesson, which are an essential part of the acquisition of Craft experiences, leads to discussions with other pupils as well as with the teacher.

Within the framework of the curriculum, 51 schools (55.66%) seek to extend this social contact through Craft experiences by including regular visits to national and local Craft exhibitions, factories, museums and Colleges of Education in the syllabuses for Craft Departments.

The most widespread and popular extra-curricular Craft activity is the Craft club that is held regularly - frequently daily - in 61 schools (67.77%).

The leisure Craft clubs, through the wide variety of non-school subject activities, allow pupils who would otherwise be denied them opportunities to use the facilities of the workshops. At the same time they enable pupils and teachers to meet socially in even more informal situations than in lesson time. Of particular relevance are the group project clubs, such as Sailing and Karting, where the pupils represent their school in competitive events. Such activities as the construction of stage scenery sets allow the school and local communities to see the outcome of concerted efforts by volunteers in extra-curricular Craft activities.

Although Craft clubs are available to so many pupils, Heads of Department at some schools have reported that they have withdrawn from providing facilities for clubs because of:

a) the multiplicity of school, staff, Departmental and pastoral meetings that coincide with normal club activities, and

b) the failure of schools to provide even a modest financial assistance to enable materials for club activities to be purchased.

One disturbing aspect of the programme of extra-curricular activities in Essex comprehensive schools is reported by 11 Heads of Department (12.22%). They insist that candidates for public examinations must attend lessons held during the lunch breaks and after school because of insufficient time being allocated to the subjects in the school curriculum.

An essential feature of Craftwork in many schools is the introduction of group projects, often for slow learners or for pupils in non-examination groups. These projects can be within the context of the school curriculum but are often extended into voluntary extra-curricular activities. Many of these projects seek to meet the Craft needs of the school community. A unique function of Craft Departments in 16 schools (17.77%) is that their resources are made available for the production of equipment for the young, the handicapped and the elderly in the community of which the school forms a part. Pupils are placed in a position where they are required to identify the needs of the

less fortunate in the society outside the school, to make visits and discuss the problems, to produce designs and construct and test and install what they eventually make.

COMPARISON OF PRE- AND POST-COMPREHENSIVE CRAFT COURSES

Teachers who had experience of teaching Craft subjects before comprehensive reorganisation were asked to compare the content of Craft courses taught then with the current courses and to give details of any significant differences.

In all 91 teachers were able to take this retrospective view and 14 said that there was no significant difference. However 12 teachers considered that the pre-comprehensive courses were superior to current courses in that:

a) they were more satisfying,
b) there were higher standards,
c) there were better workshop facilities,
d) traditional work was taught,
e) larger items of work were constructed because there was no shortage of materials,
f) more time was available to lower school pupils,
g) there were fewer classes in a teaching day,
h) the continuity of work was not ruined by the options system, and
i) higher levels of examinations were taken.

The 65 teachers who considered that current courses are superior to those in pre-comprehensive days distributed their comments thus:

47 - a greater variety and usefulness of courses,

9 - a greater variety of examination courses,

3 - the introduction of plastics,

3 - a wider ability range of pupils,

2 - better workshop facilities, and

1 - the introduction of metrication.

THE TEACHERS' PERCEPTION OF STATUS AND ROLE

As a summary to each of the questionnaires, Heads of Department and Craft teachers were asked to consider and make judgements concerning the status of the Department within the school and the role of Craft in the general education of the pupils in their schools.

Heads of Department were asked, in an open-ended question, to assess the status of their Departments and to indicate factors which they considered contributed to this level of status. 38 Heads of Department stated that the status of their Department was low compared with that of other subjects in the school. Of these 38 Heads of Department, 21 gave the following 128 reasons why this could be so:

ATTITUDES: 75 statements (58.59%):

38 - attitudes of Craft teachers
10 - general disillusionment
9 - disillusionment with Craft teaching
9 - anti-Headteacher
8 - anti-comprehensive education
2 - resistance to curriculum change

27 - attitudes of Headteachers
  12 - no interest shown
  9 - low appreciation of Craft
  6 - attitudes translated into anti-Craft actions

7 - attitudes of non-Craft teachers

2 - attitudes of parents

1 - attitudes of pupils

CRAFT GROUPS: 32 statements (25.00%):

29 - imbalance of ability mix
3 - groups too large

CURRICULUM: 15 statements (11.71%):

8 - unbalanced
3 - withdrawal of Craft in Lower School
2 - inadequate allocation of time
1 - academic subjects in Craft option
1 - poor capitation

STAFFING: 5 statements (3.90%):

3 - staff shortage
2 - partial withdrawal of staff because of additional pastoral duties

COURSE CONTENT: 1 statement (0.78%):

1 - lack of course development

The low status of the subject, linked by Heads of Department to their personal discontent, the conflict with the Headteacher and the low ability range in teaching groups, is disturbing. The fact that 9 Heads of Craft Departments (10%) are seeking early retirement from the profession solely on the grounds of disillusionment with Craft teaching suggests a need for further confidential research within the schools of the County.

Heads of Departments in 6 schools stated that the status of their subject was equal to all others taught in the school.

41 Heads of Department reported that the status of the Department was high compared with other subjects in the school. Of these Heads of Departments 34 gave the following 86 reasons why this could be so:

ATTITUDES: 36 statements (41.86%):

13 - attitudes of Headteacher
9 - attitudes of Craft teachers
6 - attitudes of those in industry wanting pupils to have Craft qualifications
5 - appreciation of the value of Craft by senior non-Craft staff
2 - attitudes of parents
1 - government publicity

CRAFT DEPARTMENT: 18 statements (20.93%):

4 - change of Departmental name
4 - good examination results
3 - positive programme of public relations instituted by Craft teachers
2 - assistance given by County staff
2 - inclusion of Craft teachers in school hierarchy
2 - Headteachers teaching Craft
1 - high academic qualifications of Craft teachers

COURSE CONTENT: 16 statements (18.60%)

8 - change of course content
8 - relevance of course content

CRAFT GROUPS: 8 statements (9.30%)

6 - good ability mix
2 - academically able pupils joining Technology courses

EXTRA-CURRICULAR ACTIVITIES: 4 statements (4.65%)

2 - success in national competitions
2 - annual Craft exhibition in school

CURRICULUM: 3 statements (3.48%)

2 - Craft/Creative core-option
1 - Craft only for boys giving good allocation of time.

6 Heads of Departments claimed that the status of a Department was entirely dependent on the image that was projected by Craft teachers and it was their responsibility to enhance this on every possible occasion. To this end two Heads of Department had prepared and distributed a programme to be adopted for this purpose. This overview of status tends to support the statements made in response to this question which indicate that, with the exception of the high number of pupils of low ability being placed in Craft groups, questions of status have little connection with the allocation of resources.

Heads of Craft Departments were asked to compare the present status of their Department with the status prevailing in the school before comprehensive reorganisation. In the case of new comprehensive schools, the comparison was to be made from the time the school commenced functioning.

Only 13 Heads of Craft Departments, all from ex-secondary Modern schools, held the same post of responsibility in the school before comprehensive reorganisation. They consider that the status is now:

SCHOOL	HIGHER STATUS	SAME STATUS	LOWER STATUS	TOTAL
EX-SECONDARY MODERN	4	8	1	13

32 Heads of Departments who did not hold the same post of responsibility in the school before comprehensive reorganisation or who were appointed to new comprehensive schools considered that status is now:

SCHOOL	HIGHER STATUS	SAME STATUS	LOWER STATUS	TOTAL
EX-SECONDARY MODERN	9	3	3	15
EX-TECHNICAL or GRAMMAR	5	1	2	8
NEW COMPREHENSIVE	4	2	3	9
TOTALS	18	6	8	32

The total for all schools is:

HIGHER STATUS	SAME STATUS	LOWER STATUS	TOTAL
22	14	9	45
48.88%	31.11%	20.00%	100%

Craft teachers were asked to comment on the value of the contribution Craft made to the general education of pupils in their schools. In all, 149 teachers responded to this open-ended question with 280 comments. A total of 86 answers were given in the form of a position on a scale:

VALUE GRADES: 86 comments (30.71%)

10 - complete
21 - very good
20 - good
3 - moderate
5 - fair
8 - modest
8 - very little
3 - poor
8 - none

The remaining 194 comments are classified under seven headings:

PERSONAL DEVELOPMENT: 68 comments (24.28%):

11 - preparation for adult life
9 - self discipline
9 - decision making
8 - communication skills
7 - broad outlook on life
5 - self satisfaction
5 - confidence
3 - pride in work
3 - logical thinking
1 - methodical working
1 - sense of values
1 - consideration for others
1 - evolution of man: tool making
1 - appreciation of quality
1 - inspirational
1 - conscientiousness
1 - observation

CRAFT ORIENTATION: 65 comments (23.21%)

25 - manipulative skills
11 - design application
11 - creativity
7 - relevance to technological age
3 - knowledge
3 - appreciation of materials
2 - safety
2 - appreciation of quality
1 - developing latent skills

EDUCATIONAL: 32 comments (11.42%):

19 - contribution to balanced curriculum
4 - integration with other subjects
4 - education for adult life
3 - contribution to basic education during progress of Craft lessons
2 - application of theory to practice

REMEDIAL: 11 comments (3.92%):

11 - value of success to low ability pupils

VOCATIONAL: 9 comments (3.21%):

9 - vocational application

RECREATIONAL: 6 comments (2.14%):

6 - preparation for leisure

THERAPEUTIC: 3 comments (1.07%):

2 - antidote for academic subjects
1 - relaxation

96% of all statements made by Craft teachers in the sample suggest that their Craft teaching makes a positive and worthwhile contribution to the general education of all pupils in their groups.

SUMMARY

The aims of teachers are affected by the provision of resources. The supply of specialist teachers can be dependent on the salary they are offered and the amount of Craft and non-Craft duties they are expected to undertake. The more pastoral and administrative duties the teacher has to attend to, the shorter will be the time he is able to devote to his Craft teaching.

The poor design and maintenance of workshops can add to the potential dangers when working, particularly in overcrowded rooms. The existence of large proportions of low ability and often poorly-motivated pupils in teaching groups can cause disciplinary problems and add to the stress of teaching. The unequal provision of capitation can cause deep resentment among teachers. All factors bearing on the provision of resources can have a direct bearing on the willingness of a teacher to develop his work, to modernise his existing courses and to introduce new courses.

The aim of the teacher to develop the special teacher-pupil relationship that can form through Craft activities is realised and encouraged through the provision of remedial courses and through extra-curricular activities.

How far the teacher is permitted to be involved in planning the work he is expected to teach can have a direct bearing on the satisfaction he receives from his work. The degree of success the teacher has in achieving his aims can play a dominant part in his assessment of his role in the Department. His assessment of the status of the subject in the curriculum and the role of the Department in the school can be the result of his own attitude and others' attitudes rather than of the provision of tangible resources.

The majority of teachers consider that, as well as providing opportunities for valuable Craft experiences, their teaching also plays a vital part in the general education of the children they teach. The central theme of hundreds of discussions held during the research visits to all 90 comprehensive schools in the County is that this experience is so valuable that it should be available to all pupils at every stage of their formal education.

12. CONCLUSIONS

The present situation and status of Craft, Design and Technology is the outcome of over a century of evolution. With roots in trade instruction and folk craft, it was introduced into schools in England at a time when a national system of education was being established. First regarded as a useful pastime, school Craft developed through a series of phases which were descriptive of the values educationalists were attempting to place on the concept of an education for all pupils through the use of materials. Originally known as Manual Training, it was then described successively as Handicraft, Practical Education, Educational Craft, Design and, more recently, Technical Studies. Now, as Craft, Design and Technology, it forms part of the curriculum of every comprehensive school in Essex but, as the research shows, not of every pupil in these schools.

A series of strategies imposes constraints on pupils, by reason of their academic ability or sex, denying them access to an area of knowledge that is now recognised as making a valuable contribution to a balanced education of all pupils in a technological age. Starting with the intake selection procedures, there is an increasing tendency during the first three years either to separate pupils so that they take different curricula according to their academic abilities or to cream off pupils with high academic ability for additional academic studies during the time allocated for Craft lessons.

Craft options introduced into the Lower School create a tendency for traditional selections of Craft to be made with boys taking Woodwork and Metalwork and girls taking Domestic Science and Needlework. Inter-departmental carousels, used to provide a series of samples of subjects, cause interruptions in the continuity of teaching during the course of the year. The introduction of non-Craft subjects into the Craft carousel dilutes still further the total time available for education through the use of materials and the span of influence Craft subjects have on pupils.

By the end of the third year, pupils are subjected to a highly questionable organisation of subject options in which some areas of study - often the Craft/Creative ones - are given poor consideration in comparison with other specialisms. Pupils make selections that are based partly on their experiences of subjects during the first three years and partly on examination requirements for further education and vocational purposes. In the case of academic subjects, these experiences have been gained through weekly study over a period of three years. In the case of Craft, a similar opportunity is available for only one in every twenty pupils in Essex comprehensive schools.

In the Upper School, Craft courses have been upgraded to make them more relevant in a technological age to the complete ability range of 4th, 5th and 6th year boys and girls in the comprehensive schools. More than half of the schools have introduced courses in Technology and 90% of all Craft courses offered in the 4th and 5th years follow examination syllabuses.

Yet although a small, but growing, number of academically able boys and girls see a value in the school Technology courses, there remains an apparent reluctance by the majority of pupils of high academic ability to take part in any form of Craft activity.

Within the schools these pupils are counselled away from Craft, often because of the limited vocational value of Craft examinations. The schools do not always emphasise the educational value of the subject and option blocks are adjusted to allow a bias towards academic studies to be maintained at the expense of balanced curricula. In addition not more than 5% of girls in the County take Craft as an option in the 4th and 5th years.

The outcome of the implementation of these strategies is that the majority of Craft teaching groups in the Upper School consist of boys who are of average or below-average academic ability. Teachers view this situation with deep concern and equate the unequal distribution of the subject throughout the schools with its relatively low status in the schools.

The introduction of design-based problem-solving courses into the schools has brought a change in the ethos of Craft education. This has produced resistance to change by teachers who see the role of Craft education as being a continuation of traditional hand craftsmanship rather than a dubious pre-vocational training for pupils in an ever-changing technological age.

Teachers see the success of their aims as being dependent on the provision of adequate resources including the equitable distribution of a full ability range of pupils to teaching groups.

Teachers see the status of their subject as being dependent on the attitudes and support of others, particularly Headteachers, and the equitable distribution of opportunities to all boys and girls for Craft education.

The overwhelming impression received during discussions with those who teach Craft in Essex is a total support for the statement made by the County Inspector with special responsibilities for Craft, Design and Technology in Essex:

> 'No pupil should leave school culturally or practically deprived and no degree of academic achievement will counterbalance the handicap of practical illiteracy.' (1)

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1. BARNES, R.W. (1974) Essex Education p. 35.

13. RECOMMENDATIONS

The following eleven recommendations are based on views expressed during the course of 500 interviews and discussions together with the detailed study of questionnaires returned by Heads of Craft Departments and Craft teachers. The recommendations are presented in an order that is relative to their appearance in the Report rather than as an estimate of their relative importance.

1. LENGTH OF SCHOOL DAY (see p.97 and Table 12)

A basic contribution to equality of educational opportunity within the County is the provision of similar lengths of teaching time within the schools. There should be movement towards extending the length of the school day in those schools where the number of teaching hours is significantly less than the average for all schools in the system.

2. EQUALITY OF ACCESS TO KNOWLEDGE (see p.101)

In all schools, all boys and girls in years 1 - 3 should have equality of access to all areas of study.

3. EQUALITY OF CURRICULUM TIME (see p.103)

In any school, the curriculum time allocated for the study of Languages, Science, Humanities, Creative subjects and Craft subjects should be equal and should be the same for all boys and girls in years 1 - 3.

4. EQUALITY OF OPTIONS INFORMATION (see p.135 and Tables 37 and 38)

County should issue an options booklet to all third year

pupils and their parents to ensure that essential general information is available for consideration before important decisions are made. Such basic information could include the generally accepted values of 4th and 5th year courses, the examination system and the relevance that courses have to entry into vocations and further education.

5. SCHOOL OPTIONS INFORMATION (see p.137)

To supplement the general information issued by County, individual schools should provide comprehensive details of all 4th, 5th and 6th year courses on offer, the school's option system and the availability of facilities and staff. This information could be monitored by County to ensure that it meets accepted standards both in quantity and quality of information.

6. NUMBERS IN 4th, 5th AND 6th YEAR OPTION TEACHING GROUPS (see p.141 : No. 13)

In any school, the minimum number of pupils required to form a viable teaching group should apply to all subjects on offer.

7. FACULTY OPTION GROUPS (see p.168 and Table 55)

Faculty option blocks should contain only those subjects that are relevant to the faculty.

8. NOMENCLATURE (see p.241)

The subject now deserves a title that is worthy of its importance. It needs to be used nationally and so end the profusion of descriptions which tend to confuse educationalists as well as parents and employers. However much it may run counter to personal preferences, it seems sensible to adopt, at every level in the secondary education system, the title

of Craft, Design and Technology now that this title has been officially recognised by the Department of Education and Science. The title, and its abbreviation of CDT, is being increasingly used in Essex schools and accurately reflects the consensus of views that the subject blends traditional skills with functional design in our modern technological world.

Essex Education Authority is responsible for the education of the second largest number of pupils in the country (the Inner London Education Authority is responsible for the largest number) and is in a position to exert influence in this matter. The adoption of the term Craft, Design and Technology by its teachers, Headteachers and County Staff could help to hasten the day when the title is adopted nationally, particularly by examination boards and colleges of education. This would go a long way towards making the subject equal in status to other school subjects and would help to remove much of the confusion that inhibits the subject being understood, accepted and appreciated by others.

9. WEEKLY CRAFT SEMINARS (see pp. 254 - 256)

Because of the particular problems associated with the reorganisation of the subject, moves should be made towards standardising non-teaching periods of full-time Craft teachers in schools where there is a five day timetable so that one afternoon each week is free from Departmental, pastoral and administrative duties. This will make it possible for regular County, Area, local and individual school re-training meetinns, seminars and discussions to be held which could then be

extended, where necessary, beyond normal school hours.

10. NUMBERS IN TEACHING GROUPS (see p.176 and Table 86)

There must be no overcrowding in school workshops. Craft teachers already support the principle, adopted when Manual Training was introduced, that the number of pupils in a practical class should be no more than half the number of pupils in a form. In today's terms, this would give a maximum of 15 pupils in practical rooms.

11. CAPITATION (see p.279)

Schools should publish, for internal use, the capitation allowances for all Departments within the school.

A further recommendation is based on personal observations made during the research visits to 90 Craft Departments.

12. TEACHER COUNSELLING SERVICE

It is, sadly, evident that there is low morale in a significant number of Craft Departments in Essex comprehensive schools. One cause is the alleged deficiences in the provision of adequate resources. The major contributory factor to the low morale, however, is the lack, or even total collapse, of rapport between members of the Craft Department and the Headteacher. As a direct result of this teachers withdraw their goodwill, they confine school activities to the basic minimum, they distance themselves from the social activities of the school and they seek early retirement from teaching. The wide experience and expertise of many Craft teachers is being lost. It would appear that a counselling and conciliatory service, composed of a modest number of experienced Craft teachers

working in confidence and with free access to Craft teachers, Headteachers and County officials, could do much to halt this loss to Craft and to education.

APPENDIX 1

REPORT ON RESEARCH VISIT TO SCHOOLS

THE SCHOOL

1. Identification
2. Age
3. Type of buildings
4. Comprehensive date
5. Location in community
6. Catchment area
7. Competing schools

TIMETABLE ADMINISTRATION

8. Numbers on roll for current and two previous years
9. Number of forms in years
10. Timetable cycle
11. Periods per day
12. Length of periods
13. Minutes per cycle
14. Hours per year for current and two previous years *
15. Forms streamed or mixed-ability
16. Extent of streaming, banding, etc.
17. Setting
18. Remedial provision by forms

THE CURRICULUM

19. Year 1 - core *
20. - options *
21. - Craft carousel
22. - Craft for girls
23. - Craft lesson time
24. Year 2 - core *
25. - options *
26. - Craft carousel
27. - Craft for girls
28. - Craft lesson time
29. Year 3 - core *
30. - options *
31. - Craft carousel
32. - Craft for girls
33. - Craft lesson time

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1. Information marked * was subsequently added to the Report after a study of curriculum documents.

34. Year 4 - core *
35. - option instructions *
36. - options *
37. - additions and subtractions to previous option list *
38. - number of option groups per subject *
39. - Craft carousel
40. - Craft for girls
41. - Craft lesson time
42. Year 5 - core *
43. - option instructions *
44. - options *
45. - additions and subtractions to previous option list *
46. - number of option groups per subject *
47. - Craft carousel
48. - Craft for girls
49. - Craft lesson time
50. - Examinations taken with results
51. Year 6 - core *
52. - options *
53. - Craft options
54. - Craft for girls
55. - Craft lesson time
56. - Examinations taken with results

THE CRAFT DEPARTMENT

57. Members of Department and subjects taught
58. Unfilled places on staff
59. Departmental name within school
60. Streaming within Department
61. Workshop complex with room designation
62. Working conditions for pupils and teachers
63. Machinery inventory
64. Individual staff timetables
65. Craft syllabuses

DOCUMENTS

66. School prospectus
67. Satisfactory Craft entry in prospectus
68. School timetables for current and two previous years
69. Essex School Curriculum Survey or curriculum analysis

DISCUSSIONS

70. Discussion points

C - FACTOR

71. Contact factor for individual teachers *

SAFETY

72. Size of teaching groups *

APPENDIX 2

HEAD OF DEPARTMENT QUESTIONNAIRE

1. Assuming that all comprehensive schools in Essex will contribute to this enquiry, how would you prefer your entry to be recorded?
   complete anonymity
   in code
   mentioned by name

2. What collective name is given to Craft on your school timetable?

3. Which subjects are included under this heading?

4. Which subjects, not included in this timetable heading, have their own timetable name and still come within the sphere of your Department?

5. What is the pattern of compulsory Craft within the school?

6. Are both boys and girls taught Craft in this compulsory pattern?

7. If so, are they taught in single-sex or mixed-sex groups?

8. Are pupils taught compulsory Craft in streamed or mixed-ability groups?

9. What is the pattern of optional Craft within the school?

10. Are both boys and girls taught Craft in this optional pattern?

11. If so, are they taught in single-sex or mixed-sex groups?

12. Are pupils taught optional Craft in streamed or mixed-ability groups?

13. What is the maximum possible number of lessons of compulsory Craft that pupils can have in one timetable cycle?

14. What is the maximum possible number of lessons of optional Craft that pupils can have in one timetable cycle?

15. How many compulsory lessons of each Craft is it possible for any pupil to have in a school year of 38 weeks?

16. How many optional lessons of each Craft is it possible for any pupil to have in a school year of 38 weeks?

17. Give details of any Craft lessons that are integrated with other subjects?

18. How many integrated lessons do pupils have in one timetable cycle?

19. Are integrated lessons specific (i.e. Project Technology) or non-specific?

20. Are there formal Craft syllabuses?

21. Are syllabuses so general that they need not be changed with the departure or arrival of staff from or to the Department?

22. Do syllabuses include courses of formal or foundation work?

23. If so, when is the non-formal or optional work introduced in the coursework?

24. Give details of types, Boards and grades of public examinations taken by pupils in the Department.

25. Give details of special preparatory work given to examination candidates for the purpose of skill revision.

26. Give details of public examination entries for the previous year.

27. Give details of special provision for Craftwork for remedial pupils.

28. To what extent are courses based on special interests of Craft teachers in your Department?

29. To what extent are courses based on the experience of individual teachers in your department?

30. Do Craft courses for girls differ from those for boys?

31. Which materials, other than wood and metal, are regularly used in Craft lessons?

32. Are there extra-curricular Craft activities during breaks and/or after school?

33. Are regular visits made by pupils as part of their Craft education?

34. Does the school take part in any community projects that involve Craft and the Department?

35. Give details of any Link courses with local technical colleges.

36. Give details of any work experience sessions involving pupils in your teaching groups.

37. Are any items produced in the Department exhibited in the school - other than in your own Craft room displays?

38. Is there any significant difference in course content since the introduction of comprehensive education?

39. Is there any significant difference in the age of pupils, sex or group composition taking Craft courses since the introduction of comprehensive education?

40. What is the present number and designation of workshops in the Department?

41. Give details of new workshops added to the Department since the introduction of comprehensive education.

42. Are the present workshop facilities adequate for the correct functioning of current courses?

43. Which new courses would you like to see introduced by your Department?

44. Are the present workshop facilities adequate for these suggested courses?

45. Were you Head of Craft Department in this school before the introduction of comprehensive education?

46. If you were a member of the Department before the introduction of comprehensive education what was the name given to Craft in the 'old' school?

47. If the previous name is different from the current name for Craft, does the change in name accurately reflect the change in course content, aims, objectives and ideals of the Department?

48. If you are fully satisfied with the name given to your Department, what name would you suggest would accurately describe the extent, course content, aims, objectives and ideals of your Department?

49. Has any change in your school name for Craft helped to raise the status of the subject within the school?

50. How would you assess the status of your Department compared with its position at the introduction of comprehensive education: higher, lower or approximately the same?

51. With reference to the previous question, can you suggest reasons why this may be so?

APPENDIX 3

CRAFT TEACHER QUESTIONNAIRE

1. Assuming that all comprehensive schools in Essex will contribute to this enquiry, how would you prefer your entry to be recorded?
   complete anonymity
   in code
   mentioned by name

2. How many years have you been involved in teaching Craft?

3. What was your 18+ route into Craft teaching?

4. If you received Craft training in College what was the collective name given to Craft courses?

5. What was the name given to Craft on the timetable of the school of your first appointment into Craft teaching?

6. How long have you been teaching Craft in your present school?

7. Do you have special responsibilities within the Craft Department?

8. Which other non-Craft administrative and/or pastoral duties do you undertake?

9. State salary scale or
   indicate scale in relation to others on staff with similar teaching experience and duties or
   indicate salary as being in top, middle or lower third in relation to other members of staff who have similar experience and duties.

10. Give details of your personal timetable.

11. Are your teaching groups streamed, mixed-ability or graded, i.e. CSE, 'O', 'A', non-exam, etc.

12. Which other Craft subjects have you previously taught?

13. Do your Departmental syllabuses place any constraints on the content of your courses?

14. Do you work from your own fixed syllabuses for each subject?

15. To what extent are your Craft courses governed by your personal interest in individual subjects?

16. Has your own personal experience in any Craft had any influence in the introduction of courses in your Department?

17. Which materials, other than traditional wood and metal, have you introduced into your courses since pre-comprehensive days?

18. Did you have personal experience in the use of these materials during your period of teacher training or industrial training?

19. Is there any significant difference in your current course content compared with pre-comprehensive courses?

20. Do you supervise any extra-curricular Craft activities?

21. Do you include external visits in your subject syllabus?

22. In general terms, are the workshop facilities adequate for the work you currently undertake?

23. Would you wish to see other Craft courses developed in your school?

24. Are the workshop facilities adequate for courses you would wish to see developed in your present school?

25. Do the requirements of external examinations place constraints on the work you would like to do with your pupils?

26. Are you a member of any Craft society or organisation?

27. If so, in what way do you feel that the meetings are valuable?

28. Give details of Craft courses you have attended since your entry into teaching.

29. Given the statement that 'the role of a refresher course is (a) to re-train, (b) to upgrade one's Craft knowledge and (c) to change the ideology of the subject', would you place these in order of importance.

30. Give details of Craft qualifications you have gained since your entry into teaching.

31. Give details of non-Craft qualifications you have gained since your entry into teaching.

32. Convert your many and various reasons for teaching Craft into a simple statement of aims and objectives.

33. What is your assessment of your progress towards these goals?

34. Are you satisfied that the name of your Craft Department accurately describes the total work done by the Department?

35. If not, suggest an alternative name that does accurately describe the work being done in the Department.

36. In general terms, what is the value of the contribution of the Department to the general education of the pupils in your school?

37. If you are College trained, is there any significant difference between the Craft ideology you received in training and your current attitude towards the role of school Craft in our present day society?

38. If you entered teaching via industry, what is your attitude towards the role of school Craft in our society today?

39. Do you agree with the statement that 'behavioural discipline in the school workshop is related to the number of pupils in the teaching group?

40. Do you agree with the statement that 'behavioural discipline in the school workshop is related to the close teacher-pupil relationship that is inherent in the workshop situation'?

41. Taking into account the variables of workshop size, number of machines, age and ability of pupils, etc. state the maximum number of pupils which should be in teaching groups.

42. Have you read A SCHOOL APPROACH TO TECHNOLOGY?

43. Have you read DESIGN AND CRAFT EDUCATION?

44. Give details of lectures, talks or discussions you have attended relating to Technology and Design education.

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